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THE
Primitive Origination
OF
MANKIND,
CONSIDERED AND EXAMINED
According to
The Light of Nature.

WRITTEN
By the Honourable Sir *MATTHEW HALE*
KNIGHT:
Late CHIEF JUSTICE of His MAJESTIES
Court of *KING'S BENCH*.



LONDON,
Printed by WILLIAM GODDID, for WILLIAM SHROWSBERY
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TO THE READER.

THE subject Matter of this Book is a free Disquisition, according to the Light of Nature and Natural Reason, touching the Primitive Origination of Mankind, consisting principally of these Parts and Assertions.

I. That according to the Light of Nature and Natural Reason, the *Mundus aspectabilis* was not Eternal, but had a Beginning.

II. That if there could be any imaginable doubt thereof, yet by the necessary Evidence of Natural Light it doth appear that Mankind had a beginning, and that the successive Generations of Men were in their Original *Ex non genitis*.

III. That this Truth is evident by Reason and Arguments demonstrative, or at least little less than apodeictical.

IV. That there are Moral Evidences of the truth of this Assertion, which are herein particularly expended and examined; and how far forth they are concludent, and how far not: which I have impartially delivered.

V. That those great Philosophers that asserted this Origination of Mankind *Ex non genitis*, both ancient and modern, that rendred it by *Hypotheses* different from that of *Moses*, were mistaken: Wherein the several *Hypotheses* of *Aristotle*, *Plato*, *Empedocles*, *Epicurus*, *Avicen*, *Cardanus*, *Cisalpinus*, *Beregardus* and others are examined, and the absurdity and impossibility thereof detected.

VI. That the *Mosaical* System, as well of the Creation of Man as of the World in general, abstractively considered without relation to the Divine Inspiration of the Writer, is highly consonant to Reason, and upon a bare rational account highly preferable before the Sentiments of those Philosophers that either thought Mankind Eternal, or substituted *Hypotheses* of his first Production different from the *Mosaical*.

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VII. I have concluded the whole with certain Corollaries and Deductions, necessarily flowing from the things thus asserted, as well touching the Existence, the Wisdom, Power, Providence of Almighty God, as touching both the Duty and Happiness of Mankind.

Though this may seem a laborious Work to little purpose, since the generality of Christians, among whom I write, do generally believe this Truth of the Origination of the World and Mankind, as it is delivered in the Holy Scriptures; and thus to write in proof of a Truth generally received, doth rather create Doubts in Mens Minds of what they already believe, than any way advantage or confirm their belief.

I Answer, 1. That for my part I think Atheism so unreasonable a thing, so abhorrent to the Light of Nature and Sentiments of Conscience, that I cannot think there is so much speculative Atheism abroad in the World as many good Men fear and suspect: But if there be but one quarter of that Atheism in the World, I do not know any better Cure of it, or Preservative against it, next to the Grace of God, than the due Consideration of the Origination of Mankind. 2. Again, though the Creation of Man be generally acknowledged by *Jews* and *Christians*, yet we must likewise consider that many take it up only as a part of their Education, and not upon any serious, deep Conviction of the truth of it: and had such Men but an Education in such a Place or Country where it is not believed, or where it is doubted, they would be at least sceptical and doubtful in the belief of it. 3. The best of Men, and soundest believers of Divine Revelations, may be better confirmed by the accession and suffrage even of Natural Evidences of the Verities they already believe; but howsoever, it better enables them to convince such Gainsayers as will be governed in their Judgments by no other Light than the Light of Nature and Reason, and many such there may be met withal in the World.

And upon that account, my whole Discourse is bottomed upon Natural and Moral Evidences suited to these Mens Principles or Motives, by which they are guided and governed; yea when I make use of the Sacred and Infallible Scriptures, I do use them abstractively from their Divine and Infallible Authority, and only as Moral Evidences of the Truth I assert:
for

To the READER.

for any Man may easily foresee, that an Atheistical Spirit that denies or questions the truth of the Fact therein delivered, will not be convinced by the Infallibility of that Scripture which delivers that for a Truth, which he denies or questions.

This whole Book as thou now seest it, was written by me some Years since, and hath lain ever since in my Chest, and surely therein should have lain still, but only for Three Reasons: 1. Because that some Writings of mine have without my privity come abroad in Print, which I never intended; and this might have had the same fate, if not in my Life time, yet after my Death. 2. Because possibly there hath some more care been used by me in the Digesting and Writing hereof, than of some others that have gone abroad in publick. 3. That although I could never be brought to value the Writings of mine that are published, as worthy of the publick view, yet I find them well accepted by many, which encouraged me to let this Book come abroad under my own Name; wherein I used more care than in those lesser Tractates, although I have not yet confidence enough to say that this may deserve any great acceptation: though there be many things in it which may not please, yet I do think there be many things useful, and such as will not displease Judicious Readers.

If there be any Faults or Mistakes in Quotations, in Syntax, in Translations, in Transcriptions, or if there be any Errours (as possibly there may be) in my Deductives, Inferences, or Applications; or if the Language be in some places either improper or obscure, or if the Expressions or Words which we sometimes use be not so full, so significant, or proper, or delivered from Amphibologies, yet I must desire the Reader to take this Apology for it.

1. It was written at leisure and broken times, and with great intervals, and many times hastily, as my busie and important Employment of another nature (known to the World) would give me leave; which must needs make such Breaks, and Chasms, and Incoherences, that possibly a continued, un-interrupted *series* of writing would have prevented, and carried on the Discourse with a more equal Thred.

2. A long indisposition of Health hath much hindred and interrupted me in a strict revising and amending of what possibly might have been requisite to be done.

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To the R E A D E R.

3. A Man whose scope, and intent, and drift is at some one thing, and hath his Eye and Design fixed upon it, many times is not so solicitous nor so curious, nor so exact in the choice of his Words, especially in Expressions of collateral things, not being the principal Subject of the Discourse, which though they may lye in his way, yet are not much under his strict advertence; but he thinks it is enough if he dresseth his Discourse so that it tend to what it principally aims and drives at. And hence it is, that in Chronological Computations, which I sometimes make use of, I content myself with a more lax and common Computation, without any great curiosity or exactness, because it equally serves my purpose as if my Computations were more critical and exact, even *usque ad minutias Chronologicas*; and so in some other mentions of Names and Times of Authors, and the like: and likewise in the choice of Words or Expressions, wherein possibly I may sometimes be too lax and free, using such as come next into my Mind, without a curious or critical choice; which is more excusable in a Discourse of this nature, than in some Polemical and Controversial Discourses of other natures, where Men usually catch at Words and Expressions, and it is the greatest part of their Business.

4. I must also desire my Readers pardon, in that in my Transcripts of some entire Texts out of *Aristotle, Plato, Plutarch* and others, I use the *Latin* Translation, and not the Original *Greek*, wherein the Authors wrote: I was a better *Grecian* in the 16th, than in the 66th Year of my Life; and my application to another Study and Profession, rendred my skill in that Language of little use to me, and so I wore it out by degrees.

And thus thou hast this Book presented to thy view, I wish thee as much Contentment in Reading as I had in Writing it: If there be any thing therein that may be useful to thee (as I suppose there may be) there is matter for my Contentment and thy Benefit; if all be not answerable thereunto, and to thy expectation, the former Considerations give thee reasonable Motives of Charity to excuse it.

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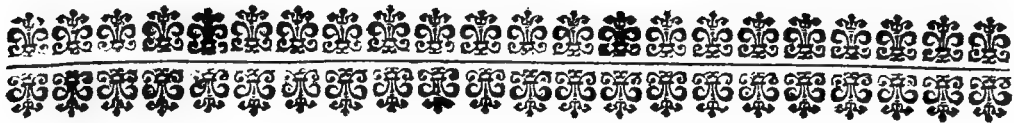
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DE HOMINE.

CAP. I.

The Introduction, declaring the reason of the choice of this Subject, and the Method of the intended Discourse.

IT is an admirable evidence of the Divine Wisdom and Providence, that there is that futable accommodation and adaptation of all things in Nature, both to their own convenience and exigence, and to the convenience, use, and exigence of one another; which evidenceth, 1. That all things are made, governed, and disposed by a most intelligent, and wise, and powerful Being. 2. That that governing Being is but one, and that all this accommodation, and adaptation, and mutual subservience of the things in Nature are the product of one most wise decree, counsel, and purpose of that one most wise, intelligent, and soveragin Being.

It is not here seasonable to make a large prosecution of the particular instances of that accommodation of things in Nature, nor of the necessity of the former consequences arising from it. The instances thereof, that are futable to the Design meant in this Discourse, shall be only these two, which I shall but shortly touch: 1. The admirable accommodation of Sensible Faculty to the Objects of Sense, and of those Objects to it, and of both to the well-being of the Sensible Nature: 2. The admirable accommodation of the Intellectual Faculty in Man to Intellectual Objects, and of those Objects to it, and of both to the well-being of the Humane or Rational Nature.

Touching the former, the Sensible Nature in its complement and integrity hath five exterior powers or faculties, that are accommodated to all those motions or impressions of natural bodies, and their accidents which are useful to it; and by these five ports or gates all those impressions which are useful for the perception of the Sensible Nature are communicated to it, namely, the five exterior Senses. It is not only possible, but very likely, that there may be such motions or qualities of Bodies, that make not any impression upon any of those Senses; but if there be such, they are such as are not of use for the perception or convenience of the Sensible Nature. But for such as are necessary for such perception of the Sensible Nature, there is no motion, quality, or operation of external Bodies, but what hath accommodated to it a Faculty in Sense receptive of it: Is there such a motion or objectiveness of external Bodies which produceth light or colour, figure, vicinity, or distance? the Faculty of Sight is fitted to receive that impression or objectiveness, and

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that objectiveness fitted and accommodate to that Faculty. Is there that motion or objectiveness that causeth sounds? the Faculty of Hearing is fitted to be receptive of it, and that objectiveness or motion (or whatever it is) fitted to make an impression upon that Faculty. And so for the other Senses. And by this adaptation and congruity of these Faculties to their several proper Objects, and by the fitness and proportionateness of these objective Impressions, Qualities, or Motions, upon their respective Faculties, accommodated to their reception, the Sensible Nature hath so much of perception and reception of things as is necessary for its sensible Being. I speak not here of those other interior Senses of Discrimination of the Objects of Sense, Phantasie, Memory, Appetite, and the rest, for they are not at present to my purpose.

II. And what is thus excellent and admirable in the accommodation between the sensitive Faculties and their Objects, is to be observed in the intellectual Faculty, though the Faculty and Object are far more noble and excellent than that of Sense. As there is an accommodation between the visive Faculty and its Object, and as there is an accommodation between the Faculty of the Taste and the Object, the Object fitted to make an impression upon the Faculty, and Faculty fitted to take the impression from the Object; so there is an accommodation, and suitable adaptation, between the intellective Faculty and the intelligible Object; the Object as it were thrusting it self into the Faculty, and the Faculty receiving and perceiving the Object.

The means of derivation, and immediate union of these intelligible Objects to the Understanding, are various: Sometimes divine and supernatural, as by immediate irradiation or revelation; sometimes artificial and instituted, as by discourse and instituted signs, and thus Intelligibles are conveyed from one man to another by words or writing; sometimes natural, and that seems to be by three kinds of means, 1. by the mediation of Sense, which is ordinarily the first basis of all humane intellectual knowledge; 2. by ratiocination or discourse of the Mind, whereby even from sensible Objects the Intellect receives a farther prospect of other Intelligibles, not immediately presented by or to the Sense, but by consequences, deductions, and conclusions deduced from things more obvious to Sense, and perchance at first represented by it; 3. there seems to be a third means, which is a kind of intuition; there are some truths so plain and evident, and open, that need not any process of ratiocination to evidence or vince them; they seem to be objected to the Intellective Nature when it is grown perfect and fit for intellectual operation, as the Objects of Light or Colour are objected to the Eye when it is open, they are understood and assented unto *quasi per saltum & intuitum*; and though these truths are such as are also deducible by ratiocination and rational process, yet the connexion between the premisses, and the conclusion in them, are so clear, and the transition from the premisses to the conclusion is so swift, short, and clear, that it seems to be in a moment, and the assent to them and evidence of them is instantaneous; such are many conclusions of moral and intellectual truths, which seem upon this account to be congenite with us, connatural to us, and engraven in the very frame and compages of the Soul, because they are Intelligibles of that nature that present themselves, and thrust themselves into the Understanding
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immediately, and many times without the mediation of Sense or Ratiocination. There is that primitive congruity between these Intelligibles and the Intellectual Faculty, that they are immediately united as I said by a kind of intuition, and though they are deducible by ratiocination, as conclusions from premisses, yet in respect of their swift *transitus* in the Understanding they seem to be principles.

Now this excellent Faculty of the Understanding, though it seems to be passive in relation to its reception of its Object, yet it is not barely a passive Faculty, it hath an activity about that Object that it receives; and it actively trades upon it to its farther improvement.

And therefore according to the nature of this excellent Faculty the Understanding (which as it hath been said is partly active and partly passive) there are two things that do much improve and enrich this Faculty.

First, It is improved by its Exercise and Employment, the very Faculty it self will degenerate, and grow sluggish, dull, and rusty by idleness: The exercise of the Intellectual Faculty makes it agil, quick, and lively, yea though the object about which it is exercised be poor, little, and low, yet a Man hath this advantage by the exercise of this Faculty about it, that it keeps it from rust and torpidness, it enlargeth and *habituates* it for a due improvement even about nobler Objects.

Secondly, It is enriched by the nobleness and worth of the Object about which it is exercised, when the Object is noble, generous, useful, and sutable, at least in a convenient degree to the worth of the Faculty: Diligence and Industry, and exercise of the Intellectual Faculty therein, doth not only exercise, imploy, habituate, and enlarge the Faculty, but enrich and enable it by the worth of the Object wherewith it is furnished.

There is so great variety of Intelligibles in the World, so much objected to our Senses, so much deducible from them by Ratiocination and Discourse, and every several Object so full of subdivided multiplicity and complicateness: And on the other side, the life of Man so short, and the approaches of the Understanding to the knowledge of things, is for the most part so slow, and gradual, and difficult, that it is not to be hoped that a Man should ever attain the full comprehension even of any small inconsiderable Insect, with all its connexions, dependences, relations, deductions, and consequents; much less can it be expected, that any Man should ever attain the full knowledge of that stupendious multiplicity and variety, that appears in all or any considerable part of those Objects of our Senses that occur in that *mundus aspectabilis* which every day we behold: And yet even the World we see is the smallest part of that which we neither do nor can see.

Therefore it seems to be worth the care of a Man, that hath a desire to improve those two great Talents that God hath lent us, namely, his Time and his Faculties; that he not only exercise his Faculty to keep him from sloth and idleness, but out of this great multiplicity of Objects to chuse some such for the exercise of his Faculties, that by their worth and value may improve and advance them; and such as may be profitable for this use and exercise, and in some measure attainable with competent certainty and satisfaction.

There be certain qualifications that do much commend an Object to a Man's Enquiry, which are principally these: B 2 First,

First, the nobleness and worth of an Object: Secondly, the usefulness of this Object being known, or of the knowledge of it: Thirdly, sufficient certainty touching the Object, or of the knowledge of it: Fourthly, that the Object be such as may be large enough to satisfy the Intellectual Faculty, and yet not distract it through its multiplicity, vastness, or extent. Something I shall say of each of these.

I. The first qualification in the choice of an Object is, that it be noble and worthy of the Faculty that is employed about it. There is not only a congruity herein between the nobleness of the Faculty and the Object, but also the Faculty is enriched and advanced by the worth of the Object. It was the reproach of *Domitian* a great Emperour, that he busied himself in hunting of Flies: Yet I do not blame the pursuit of the Works of Nature, even in the Contemplation of the smallest Works thereof, for though the things themselves are comparatively low, and inconsiderable, yet even in the smallest Vegetable or Animal, even in the very little Insects, there appears the excellent Work of the Divine Wisdom, and therefore there is a worth and excellency in the Contemplation of them, especially when that Contemplation is directed to the search and admiration of the great Wisdom and Skill of the great Creator, who in many small Insects, that in respect of their minuteness almost escape the Sight, hath placed and digested as great a variety and excellency of Organs, Faculties, and Instincts, as in the Whale or Elephant: And therefore the Labours herein of *Aristotle*, *Fortunius Licetus*, *Muffetus*, *Aldrovandus*, *Goddart*, and others, that have written whole Volumes concerning the generation, production, alteration, and variety, even of small Insects: Flies and Worms are not without their worth and use, seeing in the least of these the curious Wisdom, Skill, and Power of the great Maker of all things is conspicuous; and though they are but little Rills, yet if they be closely followed, they are and may be Manuductions to lead us to that Ocean of Wisdom, Power, and Goodness of the God of Nature, from which they had their original.

II. The second qualification that commends an Object, or Subject of Enquiry, is the usefulness of its knowledge. It is true, that there is scarce any kind of knowledge of any Object but is grateful and useful in some measure to the Understanding: But among the *Scibilia* or *Intelligibilia* in the World, there are several degrees, some are not only useless to be known, but seem to be meer impertinencies; as for instance, many Grammatical Criticisms, and how this Word was written by one Author, how by another, what fashion Cloaths the *Roman* Officers, Military, Civil or Sacred used, and very many Curiosities relating to Languages: It is true, so far forth as Words and Languages are means to derive unto us the memory, relation, or understanding of the things contained under them, so far the knowledge of them is useful in order to that end, but Languages simply in relation to themselves are but a narrow piece of speculation, and consequently those great expences of time and study that some have taken about little useless Criticisms, and trifles of that nature, hath been an improvident expence, and misemployment of their time and faculties. Again, some things there are which are yet of more value, but yet but of little use, they are known only that they may be known, or inquired into only for the exercise of Wit, Invention and Subtilty:

Subtilty : What great pains hath been taken concerning the Quadrature of a Circle, and the Duplication of a Cube, and some other Mathematical Problems? And many Men have spent much time, and written great Volumes touching those matters, which yet were they attained, the knowledge rests in it self, and is never applicable to any use answerable to the pains of their acquett. Again, there be many things touching Matters Physical, which though they are full of contentation to be known, and have their use thus far, that they are an inquiry and discovery of things that are the Works of God, and of his Wisdom, and serve to explain many *Phænomena* in Nature, yet they are otherwise of little use to Mankind; as concerning the degrees of acceleration of Motion, the gravitation of the Air, the existence or non-existence of empty spaces, either coacervate or interspersed, and many the like, which have taken up the thoughts and times, and exercised the Wits, and even the Passions of Men in Disputes concerning them, and yet though the knowledge of them is curious, and contenting in it self, yet it is not much ordinable or applicable to the use and benefit of the Man that knows them, or of others: And therefore though the knowledge of these Objects be commendable unto us upon an account of their contentation and curiosity, yet they do not commend their knowledge to us upon the account of their usefulness and beneficialness.

Again, some Objects there are that are not only noble in themselves, but they have also at least a mediate and preparatory usefulness to Mankind, though perchance in themselves and immediately they have not that commodation. Thus the knowledge of divers parts in Natural Philosophy, and the rules, motions, and variety of Qualities and Operations of divers Natural Objects, the connexion of Causes and Effects, the observation of the Order of things in Nature, are of singular use to carry the Mind up to the acknowledging and admiration of the Great Efficient and Governour of the World, of His Wisdom, Power, Goodness, Bounty, and consequently to raise up the Heart to veneration of Him, dutifulness and gratitude unto Him, dependance upon Him, and a deep impression of Natural Religion towards Him, and of all those consequents that arise in the Mind and Life from this habit of Religion: So true is the Saying of an excellent Naturalist of our own, *A little knowledge in Philosophy may perchance make a proud empty Man an Atheist, but it is impossible that Atheism can lodge in a Mind well studied and acquainted with Natural Philosophy.*

And as thus the knowledge of Nature is useful to Mankind, to bring him to and confirm him in the knowledge of the Glorious God, so it is preparatively useful, and indeed necessary to many useful things in this Life, as to make a Man a good Physician, *ubi desinit Philosophus ibi incipit Medicus*, where the Philosopher ends the Physician begins; which next to the knowledge of Almighty God is of great necessity and use to Mankind.

And touching Geometry, Astronomy, and Arithmetick, though in the knowledge of them there be many things that are nice and curious, and not so much in order to use as to speculation and exercise of Wit, yet they are such Objects, the knowledge whereof is in many things very beneficial to Mankind, as we see in the construction of all Mechanical Engins
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in the measuring of Bodies, Superficies, and Distances, in the Rules and Exercise of Architecture, Fortifications, and ordering of Battalia's, Computations and Reckonings in Contracts and Merchants Affairs, in Navigation, in the Measure and Computation of Time, and the right knowledge of several Seasons, these Mathematical Subjects and Sciences have great use in relation to humane affairs and concerns.

And as thus those more curious Sciences have their use in the Affairs of Mankind, and are commended unto us, not only upon the account of the nobleness, but also of the usefulness thereof; so the knowledge of History, of Humane Laws, of Moral Philosophy, and of Political and Oeconomical regiments of the various Modes, Temperaments, and Qualifications of Governments, with their Appendages, are upon the account of their usefulness to Humane Society, and the Peace, Tranquillity, and Order of the World, and of the particular Societies, Relations, and Persons therein commended to our knowledge and contemplation, as things without which the World of Mankind would soon be in disorder and confusion. And although these Studies are not so pleasing and grateful to the Understanding, as those other more curious Contemplations either Physical or Mathematical, yet they recompence it with the excellency and necessity of their use, in relation to the noblest visible Creature, Man, and in relation to his noblest and most useful posture and station in this World, namely, a state of regulated Society and Government.

Now according to the kind or degree of the usefulness of the Objects to be known, so the knowledge thereof is more or less commended unto us, upon the account of the various degrees of usefulness: Some Objects and their knowledge are of greatest value, because their use is of more universal concern and important necessity, and such is the true knowledge of Almighty God, His Greatness, Power, Wisdom, Goodness, and Will, especially as He hath revealed Himself in His Word, and those noble habits that upon that account are ingenerated in the Soul, as Religion, Gratitude, Obedience, and Tranquillity of Mind, Regularity of the Soul and Life.

And upon the same account there is a great value in knowledge of Morals, and of those Duties that we owe to our selves and others, and a conformity of Minds and Lives to the Dictates of Religion and Morality. And the excellence of their use, and consequently the commendation of that knowledge upon that account is evident in these particulars: 1. The right and true knowledge of those things do not only perfect our Souls and Natures by the excellency of the knowledge it self, but they perfect our Souls and Natures with Goodness: They do not only perfect the Intellectual Faculty, but they also perfect the Volitive Faculty; they make the Man not only more knowing, but more wise, and they also make him the better, more just, sober, temperate, religious: A Man may know very much in Mathematicks and Natural Philosophy, and yet be a bad Man; but a Man truly acquainted with the knowledge of God, and with the due sense of his Duty to Him in matter of Religion, and his Duty to others in points of Morality, which is a part also of the Divine Will, is not only a knowing Man, but becomes also a good Man (if indeed his knowledge be sound and true).

Again;

Again, 2. All other knowledge meerly or principally serves the concerns of this Life, and is fitted to the meridian thereof: They are such as for ought we know will be of little use to a separate Soul, at least we do not know whether the Soul in its state of separation will be much concerned in the knowledge of Physical or Mathematical Learning, or the Rules or Methods of Political Regiment: But this we are or may be sure, that the Soul will carry with it into the other World that knowledge of God which it acquires here, and receive an unspeakable improvement thereof by a nearer union to Him; and it will carry with it those improvements and advances of Piety, Goodness, Righteousness, Holiness, those Habits and Graces that it began here; and as the Soul is improved and made the better in this Life by this knowledge, and those effects and meliorations that it here acquired by them, so it will carry along with it those advantages to the next World; for there is a connaturality and congruity between that knowledge and those habits, and that future estate of the Soul. So that this kind of knowledge is not only serviceable and useful for the present Life *in via*, but is proportioned to that state that is *in patria*.

And as touching the knowledge of things that are meerly accommodate to the present Life, they receive their disparity of value in this respect, according to the disparity or different degrees of usefulness. Some are useful for nobler ends, some for lower and more inferior ends; some are in a greater degree useful for the same ends than others; and according to the varieties of ends, uses, and their degrees, the knowledge of them (as in reference to this part of the commendation of an Object, namely, usefulness) is more or less eligible. But this is too large a Subject particularly to prosecute in this place.

III. The third commendation of a Subject of Contemplation, and that renders it eligible, is Certainty. Where the Subject is uncertain, and the evidences touching it doubtful, although perchance the speculation that it affords be very high and sublime, yet such a Subject is not in this respect so eligible as what is more certain, for it leaves an impartial and serious Mind full of doubt and dissatisfaction; and where it meets with a Man of a busy phantasmie, self-conceited, and partial to himself and his own thoughts, and that would be thought to know beyond the common standard of other Mens Reason, it puts him upon the confident framing of Hypotheses built meerly upon Imagination, and from these weak foundations he deduceth Systems of Consequences and Conclusions, which being built upon meer fanciful and inevident Suppositions, fall to nothing but dust and smoke as soon as their evidence is impartially examined. Some Subjects are so remote from us that we are strangers to them, and our knowledge concerning them is meerly conjectural, and those very conjectures for the most part wanting competent *media* to make them tolerably probable. Concerning the Extent of the Universe, the Plurality of Worlds, the State of Heavenly Bodies, whether they are inhabited, and with what kind of Inhabitants, whether they are animate Bodies, whether they are moved by Intelligences, or by their own Forms, or by the motion of the Body of the *Æther*, or those imaginary *Vortices* wherein they are placed? These and many such Speculations touching things at this distance may gratifie the Imagination, but never

never satisfy the Mind. Again, some things though they are or may be near unto us, yet are of that subtilty that they escape our Senses, and thereby we cannot make our approaches to their discovery. As concerning the Nature of Spirits, their *ubi*, *motus*, the manner of their Intellection and mutual communication of Notions; by what means or in what manner actual Intellection is effected in the Soul; how the Species, Order, and Circumstances of things are preserved in the Memorative Faculty or Organ, or where else these and many other hidden parts of Nature, even of a far lower form, are unaccessible to us.

The Contemplation of the Universe, and of the Natural Causes and Effects therein, is indeed an excellent Contemplation: For, first, it exerciseth the Intellectual Faculties, keeps them in motion and employment, and thereby perfecteth them. Secondly, It is full of delight and contentation to the Mind. Thirdly, Although the Understanding attains not a perfect discovery of what it searcheth after, yet many times undesigned and unthought of discoveries of many excellent things recompenceth the loss of the principal intention; as those that have bent their endeavour to attain the Philosophers Stone, though they never attain their end, yet in their process towards it do many times light upon excellent discoveries which they never thought of or designed, which in a great measure recompenseth their disappointment in the Particular sought after. Fourthly, It gives a great discovery of the admirable Wildom and Power of God in framing and ordering of the World, and so becomes a manuduction to the knowledge, acknowledgement, and adoration of Him.

But yet when we consider how short and weak our best discoveries are in the most accessible, obvious particulars, and narrowest Integrals of the Universe: When we consider how many things in Nature escape our Senses, and the discoveries thereof; and yet how much we stand in need of the discoveries of Sense, and sensible and experimental observation, to bottom any sound conjecture concerning the Nature, Causes, and Effects of the things in Nature, and how uncertain, fanciful, and imaginary our Suppositions are without it, whereby it comes to pass, that we many times frame suppositions and conclusions concerning things supposed to be in Nature, before we have any certain evidence, whether in truth the very things about which we frame our suppositions or conclusions have at all any real existence; or if they have, yet for want of a clear, and sensible, and experimented observation of them, our positions and conclusions touching their Causes, Effects, Order and Methods of their procedure are but fictions and imaginations, accommodated to our Inventions rather than to the things themselves, and such as we rather project we would have them be, if we had the making of them, than what in truth they are. And lastly, if we consider the vast extent and multiplicity of the whole Compass of the Universe, and the things therein contained, the many parts thereof, that either in respect of their tenuity or distance escape the reach of our Senses, the infinite complications and combinations of several concurrences, causes, and contributions to the constitution and operation of almost every Integral in Nature, the shortness of our Lives, and the many necessary diversions that we have, and must necessarily have from those Contemplations. I say, when we consider these

these things, it seems a thing utterly to be despaired of to attain a full, certain, evident knowledge of the whole Universe, or of any considerable portion thereof.

And hence it is, that if we consider the various *Hypotheses* of the ancient and modern Philosophers, touching the general Systeme of the World, and those more Universal and Cardinal Solutions of the common and great Appearances in Nature, we shall find them or the greatest part of them, to be little else than excogitated and invented Models, not so much arising from the true Image of the things themselves, or resulting from the real Existence of them, as certain instituted and artificial Contrivances of mens Wits and Fancies. And these Suppositions being thus invented, they distort, stretch and reduce the Orders of things in a conformation to those pre-conceived Suppositions; and then by the Inventers of them, and those that are their followers, and would seem to be men of quicker sight than others, and not to come too short of the perceptions of their Leaders, they are in a little time magnified into the true Solutions of the *Arcana Naturæ*, and then all or most of their Argumentations, Positions, Superstructions and Conclusions, are founded upon, and conformed unto, and deduced from these excogitated *Hypotheses*, as if they were the true, and only and real frame and constitution of things, when they have as little reality, and less evidence than the imaginary solid Spheres in the Heavens, or their Musick, the Horses of the Sun, or any other Poetical Fictions.

And if at any time some one *Phænomenon* of Nature appears, that crosseth any of these Suppositions or *Hypotheses*, or suits not with them, or is not salved by them, presently great pains is taken to supply that Defect with some subsidiary Supposition, that may stop that Leak, and piece up the *Hypothesis*, which must be presently granted to be true, not because there is any evidence of it from the things themselves, but because it suits with that artificial and precarious *Hypothesis* which was before taken up and made much of.

This we may easily observe to be true; if we should examine all the various Suppositions of leading men in their several Sects.

The Chymical Philosophers make their *Tria prima*, *Salt*, *Sulphur* and *Mercury*, the great constituent Principles of all Bodies; others add two more: And their evidence that they are so, are, because they find by their solutions by Fire, some things which they call by these Names, to be that whereinto Bodies are dissolved; when, for ought can be evidently made out, many of these are not so much really in the constitution of the Bodies themselves, as the very alterations or changes of them by the force and energy of that active Element, or at least, though after their solution, they assume the shapes of *Salt*, *Sulphur* and *Mercury*, yet there are even in those Consistences very various Contextures, differing extreamly in each Body from other, though they seem to assume some analogy of shape: And possibly there may be a thousand Constituents of different Natures from any of these supposed Principles in Bodies, both before and after their solution by Fire or Heat.

The *Aristotelians* have excogitated another sort of Suppositions of Principles, *Matter*, *Form* and *Privation*. And yet it is very difficult to conceive that any such thing should be as *Matter*, undetermined by something
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called *Form*; and as difficult to conceive what many sorts of these Forms are (which they call substantial) whence they arise, what becomes of them, whether some of those they call Substantial, are any other than the various Modifications of *Matter*; whether others of them are not some middle Nature, neither Bodies nor Accidents, but Powers of a different nature from Bodies, Accidents, or Qualities, or Substances, though not so obvious to our perception: This *Hypothesis* therefore seems for the most part, to be a kind of artificial contrivance, not wholly taken from the natures of things, but fitted to give some kind of explication of them; and for the most part an Engine to guide our Conceptions, as the Figures in *Logick*, or the artificial Schemes for the finding out a *Medium* used by them; *Barbara, Celarent, Darii, &c. Napcas, Cipinis vel Nipis.*

Again, if we look upon the Supposition of *Epicurus*, and his Explicator, *Lucretius*, and his Advancer, *Gassendus*, how many things must be taken for granted, that are not only perfectly inevident to our sense, but altogether improbable? The multitude of physically indivisible Atoms, their strange Figures accommodated to their Motion, Adhesion, and Coagulation, their declined Motions, and the means of their Coalition: And when all this will not serve to contain things within any possible certainty or specifical determination, to patch up that defect, certain *Moleculæ Seminales* must be supposed to make up that Defect, and to keep the World and its Integrals from an Infinitude and Extendlesness of excursions every moment into new Figures and Animals, and yet made up meerly by chance, and by the contexture of those Atoms which have neither quality nor energy, nor any thing else besides their small and imperceptible Moles, to make them operative, and that Local Motion which they there have; but they teach us not from whence they have it.

Again, If we look upon *Des Cartes* his Supposition, who was not altogether content with the former, but gave it some Correctives, though the main *Substratum* be of *Epicurus*; what colour of evidence have we of the various Configurations of his Atomes, the grinding of them round by their mutual attritions, the coalition of the Globular Atomes into the Heavenly Bodies, the filling of Chinks and Interstices by the *Ramenta* of the greater, whereby a *Materia Subtilis* is diffused through the Universe, which is invisible, performs most of those motions that we see in things, that the Animals are only Engines, and actuated by the mobility of this subtil matter? These, and infinite more artificial Inventions of his there are, that neither Sense nor Reason could ever acquaint him or us with; but they are an ingenious Creature of his own fruitful Invention, wittily framed to explicate not so much the Nature of things, but those Conceptions he entertained thereof, and to reduce and range them into an Order contrived by him, not by Nature.

This Excursion I have used to shew how great a difficulty there is for a man to have a suitable conception of the great Fabrick of the World with any tolerable certainty, whereby it hath come to pass that the readiest and most exercised Wits have fallen into so great varieties of explication thereof, and yet all of them so full of unevidence and uncertainty, so full of precarious and imaginary *Postulata*, so full

full of unreasonableness, and improbability, and impossibilities in themselves, and one with another, that a man that is not imposed upon by the Veneration of the Authors, or his own Phantasie, cannot tell how to fix in any of them but must cry out upon them with the Comedian, *Probè fecistis, incertior sum nunc quàm dudum*: Ye have mended the matter well; I am now more in doubt than before: Neither are we ever likely to attain any certain or satisfactory knowledge in the Physical Causes, Effects and Appearances in their largest extent and latitude.

4. The fourth commendation of an Object of Knowledge is, that if it be merely Physical or Mathematical, it bears some proportion to the Intellective power, neither too narrow, and circumscribed into a small compass, nor yet too full of multiplicity: The former satisfies not the Understanding; for it soon exhausts all that is in it, and leaves the Understanding no work to exercise it self withal. The latter surchargeth and oppresseth the Understanding with its multiplicity. And upon this latter account it is, that although the whole Universe and every part thereof are Objects full of excellency and worth, yet the multiplicity thereof is so great and various, that the Understanding falls under a kind of despondency of getting through so great a Task: and those that have undertaken the full speculation of all the parts of the visible World, have done it but superficially, lightly, and in Generals; the time of Life and the Intellective faculty, that moves but gradually and successively, have not been sufficient for an exact account of all things visible: And therefore they that have designed exactness and deep scrutiny into things, have taken some one part of Nature for that purpose; and even in those single Objects there is most commonly a connexion of such various Appendances or Incidents that they that have set themselves upon such seemingly narrow Enquiries, have found it a business enough to take up a greater portion of Time and Enquiry than our short Lives will afford us; as may easily appear by the great and large Tractates of them that have written concerning the little Organ of the Eye, or the Visive Faculty, the Magnetick Motions and Variations, or some other single Organ or Faculty of the Reasonable or Sensitive Nature.

Among the many Objects of Knowledge, there seem to be two especially, which upon the most part of the before-mentioned accounts, most commend themselves to our contemplation and enquiry; namely, the knowledge of the ever-glorious God, and the knowledge of our selves and the Humane Nature. Almighty God is the highest and most excellent and sovereign Object of the Intellectual Faculty: It is true, he falls not under the last qualification. Though he is but one, and one most simple uncompounded Being, yet his Nature and Perfections, his Power, Wisdom, Goodness, and all other Excellencies are infinite and incomprehensible by any intellectual Nature but himself; and therefore he is an Object infinitely too large for the comprehension of any created Understanding: He is a Light too bright for our Intellective eye to see, but by reflexion, or through the Vail of his Word or Works. The more we know of him, and the more we draw near unto him by serious and humble contemplation, the more we discover an endless and unsearchable Ocean and Perfection in him, so that we must not, cannot expect to find out the Almighty to perfection; his ways are unsearchable and past finding

finding out, and much more his Essence and Perfections; so that though he be the most natural, and the most desirable Object of created Understandings, he is an Object infinitely too large for it.

But although in respect of the measure of his Perfection, he be an Object unproportionate to a created Understanding, a Light too bright, and an Ocean too large and too deep for it, yet there is so much of his knowledge attainable by us, as is sufficient for use, nature and everlasting happiness: and the knowledge of Almighty God, so far as it is attainable by our narrow created Understanding, highly advanceth the humane Understanding upon all accounts, and infinitely excels the knowledge of any other Object in the world, upon these ensuing accounts among many others.

First, It is a knowledge of such an Object that hath the greatest and most convincing certainty in the world, a certainty that he is, and in a good measure a certainty what he is; for though it be impossible for any or all the created Beings in the world, to attain a distinct, perfect and full *Idea* of the Divine excellencies, in their full, adequate, distinct perfections; yet that Image that he hath given of himself, in the admirable Frame of so much of the world which we know, doth with all imaginable certainty evince, That he is, that he is but one, one most intelligent, wise, powerful, free, good, simple, eternal, infinite and most perfect Being, the Fountain of Being, and the first Cause of all things, though we cannot attain the full comprehension of that perfection: And truly it is no small evidence of the Divine Wisdom and Goodness, That that great and important Truth of the being and perfection of Almighty God (the Principle and Object of the greatest importance in the world to the good of Mankind, and for the advance and perfecting of humane Nature) should be written in such plain, clear and evident Characters in the Works of Nature, and evinced by Evidences rising from thence, as are obvious to any person that hath but the common use of Reason, and the honesty to use and exercise it sincerely.

Secondly, It is the most noble and excellent Object in the world, and that may and doth most enoble and advance the intellective Faculty; he is the Fountain of all Being, and of all Perfection: Those Excellencies that are in the noblest created Natures in the world, are but shadows of that perfection that is in him: Though a created Understanding can never take in the fulness of the Divine Excellencies, yet so much as it can or doth receive thereof, is of greater extent, use and value, and doth more advance and enrich the Faculty, than any other Object in the world, though that other Object were fully and adequately known.

Thirdly, Although the Understanding can never search out the Almighty to perfection, by reason of the infinite excess of this Object, beyond the capacity of a created Faculty, yet there is that congruity between this Faculty and this Object, that connatural ordination, as it were, of Intellective Faculty to this Object, as if it were (if not only, yet principally) lodged in the humane Nature for the sake of this Object; so that though there is no commensurableness between this Object and a created Understanding, yet there is a congruity and connaturality between them: And hence it is, that so much as we do or can know of God, is delightful and grateful to the Understanding. And
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though this abyſs of excellency be infinite, yet it doth not confound, nor diſorder, nor overwhelm the Underſtanding in its modeſt and due ſearches into it: And beſides, although the perfection of his Eſſence, and many of his Attributes, as Infinitude, Immensity, Indivifi- bility, &c. do dazzle our Underſtandings, yet ſome of his Attributes, and the Mani- feſtations thereof, are not only highly delectable to the Intellective Faculty, but are ſutable and eaſily conceptible by us, becauſe apparent in his Works, as his Goodneſs, Beneficence, Wiſdom, Power, &c. if we attend to it.

And certainly it was the great Goodneſs and Condeſcention of the Glorious God unto his Creature Man, that when he knew all his own Excellencies were too great and too bright for us to ſee, he hath been pleaſed to diſcover ſo much of himſelf as was fit and neceſſary for us to know, by means that our Faculties might uſe without diſſipation, diſtraction, or too great aſtoniſhment; namely, firſt, By his Works, reflecting his Greatneſs and Goodneſs. Secondly, By his Word, by Divine Revelation diſcovering his Goodneſs, Mercy, Power and Truth. Thirdly, By his Son, through the Vail of our Fleſh; by all which that Brightneſs and Splendor of the Divine Excellence, that by an immediate intuition or exhibition would have overwhelmed our Intellective Faculty (as it ſtands united to our Bodies) is preſented to us more proportionately to our Capacities and Faculties, by a kind of refraction, and a more eaſie and familiar manifeſtation.

Fourthly, It is the moſt uſeful Object of our Knowledge that can be; and in compariſon of this, all other Knowledge is vain, light and imper- tinent; and indeed all other knowledge is valuable upon this ſingle ac- count, by how much it gives us a manifeſtation of the Divine Excel- lencies, and leads and conducts to the knowledge of Almighty God and his Attributes. If I conſider my ſelf in this Life, there is not a moment which I live, or wherein I have any contentation, or comfort, or conve- nience, but all this I have from his Influence and Bounty; and certainly it concerns me highly to know my Benefactor, from whom I receive my Good, that I may depend upon him, be thankful unto him, propi- tiate him, and make my applications to him for what I want. Again, the wiſeſt men that have ſearched after happineſs in this Life, though they have miſſed of the place where it is to be found, have with great rea- ſon placed the beſt happineſs that can be found on this ſide Death, ei- ther in Virtue and the exerciſe thereof, or in Tranquillity of mind, or in both, for they are rarely aſunder. Now I may be an excellent Ma- thematician, a man well ſeen in Natural Cauſes and Effects, an excellent Stateſman and Politician, and yet be without that Goodneſs that may de- nominate me juſtly a good man, and without that tranquillity of mind that may make me a happy man; but the true knowledge of God, ſe- riously and really dwelling and digeſted in the Soul, makes a man a good man, and a happy man; it makes a man to love, fear, honour and obey him that he thus knows. A man cannot truly know him, but he muſt know that in him, which by a moral neceſſity raiſeth in a man thoſe Habits and Diſpoſitions, namely, of Religious Piety towards God, Juſtice and Righteouſneſs to men, Sobriety in relation to himſelf; for in knowing this God, he knows that theſe things are well-pleaſing to him, and the con- trary

trary displeaseth him, and he knows him to be a God that knows all things in the world, and that is a bountiful Lord to them that love and obey him, and a just Judge of them that despise or forsake him. And as thus it makes him good, so it makes him happy, by giving him the highest and most firm Tranquillity of Mind that can be; for he knows that this most gracious and powerful God orders and governs all the things in the world with irresistible power, exquisite and infinite wisdom, and abundant goodness, and that he is well pleased with them that love, fear and obey him; and upon all these accounts a man rejoiceth in his Favour, depends upon his Power, Goodness, Wisdom and All-sufficiency, resigns himself to his Will, is contented and patient under all conditions, and so doth enjoy perfect tranquillity of Mind.

But this is the lowest portion of the usefulness of Divine Knowledge. There is another Life after this, a Life of eternity, and the influx of the knowledge of God in relation to this everlasting Life, is infinitely of more moment; it fills the Soul with a capacity of it, with a suitability and state of congruity to it, with those preparations, dispositions and habits that are necessarily pre-requisite for it, and gives him the fruition and perfect enjoyment of it: That measure of the knowledge of God that we attain, is the best happiness we enjoy in this Life, and the perfection of our happiness in the Life to come, where we shall have a more perfect intellectual Vision of the Glorious God, and as full a fruition of the Goodness of God, as that elevated Nature which we shall then have, can be capable of: Then that measure of the knowledge of God which we here acquire, shall be refined and advanced to a degree of perfection suitable to the advance that this Intellective Faculty shall then receive; and that measure of goodness that by the means of that knowledge is wrought in the Soul in this Life, shall then be improved to a higher degree of excellence, and rewarded with a weight of Glory.

This Knowledge therefore of all other Knowledge is to be preferred: And in all our busie inquisitions touching other things, we must remember our selves, as our Lord remembred *Martha* in the Gospel. We are busie about many things, and trouble our selves with many Enquiries; but there is one thing, one Object, and the knowledge thereof necessary, namely, the knowledge of the glorious God: *This is life eternal, to know thee the only true God, and Jesus Christ whom thou hast sent*, John 17. 3. Whatever therefore we endeavour to know, it must be with subordination to the endeavour after this knowledge: And as far as is possible, all other knowledge, and desire thereof, should be directed to the improvement of this Knowledge, or in order to it, and to the end acquirable by it.

The second profitable and useful Object of our Knowledge, is, the the Knowledge of our selves: And next to the Knowledge of Almighty God, and his Will, and his Son, this Knowledge of our selves, seems most worthy of our endeavour: And therefore I have chosen this Subject for my search and examination at this time: For in this Subject we shall find all those Qualifications or Requisites before-mentioned, that commend any Subject to our Enquiry or Knowledge.

Of any one visible Subject in the compass of created Nature, there is
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none that we know and are acquainted with, that hath more worth and excellency next to the great Creator of all things, and the holy Angels; and that which seems to be most noble, the Image of the glorious God; namely, the Universe, as it comprehends the Systeme, Order and Excellencies of all created Beings, digested into their several Ranks and Orders, and collected and put together into that glorious Frame of the Universe: But as it is impossible for us, at least in this Life, by any means to be acquainted with all the Integrals of that glorious Structure, some are in their nature imperceptible by our Sense; namely, the Spiritual Beings; yea, and the more refined parts of material Existences, which by reason of their subtilty, escape our perception: Other parts thereof are so remote, that although they might in their own nature be perceived by Sense, yet they are at that remote distance from us, that they escape our Sight, though the most active Sense we have. And again, the vast extent of the Universe is such, that though we might successively see the parts of it, yet it is not physically possible to see it at one view; and consequently impossible to see at once that beautiful and glorious Image of the more beautiful and glorious God in its full complement represented in the entire Frame of the Universe.

Again, we cannot but suppose that there are divers Ranks of created Beings intermediate between the glorious God and Man, which far surpass man in perfection of Nature and Operations; as the glorious Angels, and created Intelligences; may possibly there may be material Beings of a more refined substance, and endued with more advanced Forms than ours. Who knows whether the Stars are not furnished with intellectual Creatures more excellent for their Substance and Forms, than we Mortals? Yea, and for ought we know, the Stars themselves may have Forms appropriate to them, of a more excellent frame than ours; though, as I have before said, this exceeds our determination.

But although these things may be, yet we know not that they are; and if they were, yet we are unacquainted with their natures and kinds; only the reality of existence of Angelical Creatures, and created separate Intelligences, and the possibility of Nobler Creatures or Natures than ours, residing in some parts of the Universe, may teach us not to be so over-prizing and over-valuing our selves, as to think that there are no other Creatures intermediate between God and Man, of a greater perfection than Man. We see a multitude of Creatures between us and the lowest rank of Animals specifically and gradually one below another; and doubtless there are, or may be, many ranks of Beings intermediate between the glorious God and Mankind, that have specifical gradations one above another.

But whatever may be said touching these, yet certainly of all the visible Creatures that we are acquainted with, Man seems to have a very great Prerogative of excellence. And though he may not bear so fair and so noble an Image of the Divine Glory as the Universe in its full Systeme and Order, or as those nobler Beings that are of a Rank and Nature above him, yet certainly he bears a greater measure of the Divine Image, than any one visible Creature we know; and so far forth as we know: God himself affirms thus much of Man, that he created him after his own Image; which he says not of any of the Celestial Bodies themselves;

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Gen. 1. Man therefore is a Creature, that of all visible Creatures that we know, is the noblest.

We may observe in the Creatures of a subordinate rank to us, how the more inferior and ignoble bear somewhat of the Image of the superior, a kind of shadow or adumbration of those perfections that in the superior are more perfect, not only by a gradually, but specifically differing perfection. We see in some Metals an Analogical resemblance of those vital effects of Vegetables, growth, digestion and augmentation that is more perfectly in Plants and perfect Vegetables: We see in Vegetables a resemblance of Appetition, Election, Generation, and in some of them an imperfect Image of that universal sense of Feeling which we find more perfectly in Animals: We find in Animals, especially some of them, as Foxes, Dogs, Apes, Horses and Elephants, not only Perception, Phantasia and Memory (common to most, if not all Animals) but something of Sagacity, Providence, Disciplinableness, and a something like unto a Discursive Ratiocination, bearing an analogy, image or imperfect resemblance of what we find, though in a degree, specifically more excellent in the humane Nature, insomuch that *Porphiry*, *Plutarch*, *Sextus Empiricus*, *Patricius*, and some others have been bold to make reasonableness not the specific difference of the Humane Nature; and some latter persons would not have the Definition of a man to be *Animal Rationale*, without the addition of *Religiosum*; wherein he seems particularly to exceed the Brutal Nature: Although in truth that which seems to be Reason in the Brutes, is nothing else but the Image and Analogical representation of that true Reason that is in Man, as the Water-gall is the Image, Shadow, or weak Representation of the Rainbow.

And we have reason to think that that intellective and volitive power which is in Man, bears an Image and Representation of the like power that is in Angels and separate Intelligences, though neither of equality to that perfection that is in them, either in degree or kind.

And although it were too great presumption to think that there is any thing in any created Nature, that can bear any perfect resemblance of the incomprehensible perfection of the Divine Nature (very Being it self not predicating univocally touching him and any created Being and Intellect, and Will, as we attribute them to God, are, as we may reasonably think, not only of a Perfection infinitely transcending any created Intellect and Will, but of another kind and nature from it) yet though we are not able to comprehend the excellence of the Divine Nature, we cannot frame unto our selves a conception of him without the notion of Intellect and Will, though infinitely perfect: It seems that those two great Faculties in us, bear a weak Analogy with, and Representation of the Divine Nature. And therefore in that respect, Man is the Image and Representation of the Glorious God, though the disproportion between him and this his Image, be infinitely more than the disproportion between *Cæsar* and his Image upon his Coin, or the Sun in the Heaven, and the Shadow of him in a Basin of Water.

And in this respect, the Humane Nature is a worthy and noble Object of our Enquiry and Knowledge, because here is the best visible Image of Almighty God that we can fully acquaint our selves with, next to him that was the Brightness of the Fathers Glory, and express Image of his person, Christ Jesus our Lord.

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And besides this relative consideration of the Humane Nature, with relation to those Beings that are above him, Man is an excellent Object of contemplation; so if we look upon him either absolutely in himself, or with relation to Creatures of an inferiour nature, he is a worthy and noble object of our contemplation.

If we consider him absolutely in himself, he is an Object worthy of our contemplation; he is admirable in excellent composition and figuration of his Body, and in every part apart, and in the whole structure put together, admirable in the Nature, Faculties, and Excellence of his Soul, admirable in the conjunction of both together, admirable in all the operations of Life, Sense, Intellect and Will, which he exerciseth in this state of conjunction and union, admirable in his production and generation, and admirable as to the condition of his Soul in its state of disunion and separation. The speculations concerning him, are all full of great variety, curiosity and worth, because the Subject it self is such.

If we consider him with relation to other created Beings of an inferiour nature; First, he comprehends all the excellencies that are in the inferiour ranks of Being, and that for the most part in a more excellent and perfect manner: The Life that is in Vegetables, and the operations of that Life; the Life and Sense that is in Sensibles, and the excellent operations of them, all Sensation, Perception, Memory, Phantasie, Nutrition, with its several processes, the faculties of Appetition, Passion, Generation; The disposition of Parts and Organs that are best in any Animal, are to be found in the disposition, order and texture of the Body of man; and wherein it differs, it differs with much advantage and prelation over the structure of the Bodies of Animals; so that the knowledge of Man gives us a full account of the excellence of others, either Animals or Vegetables: He that well knows Man, knows whatsoever is excellent in the Animal or Vegetable Nature. Secondly, Besides these Excellencies common either to the Vegetable or Animal Nature, and Man, there are certain excellencies superadded to the Humane Nature, certain specific prelations in his Body, the Structure, Posture, Beauty and Majesty thereof, certain specific excellencies and usefulness in some of his Organs, the disposition of his Hand, Brain, Nerves and other Integrals: Again, the specific Excellencies of his Soul in those great and admirable Faculties of Intellect and Will; Of all which in their due time: So that he that is well acquainted with, and knows Man, knows whatsoever is excellent in the Vegetable and Animal Nature, and much more.

So that upon the whole account, we have a Noble and Worthy Object of our Contemplations, in the contemplation of Man.

2. In the contemplation of Man we have an Object that doth not overmuch confound us with its excessive multiplicity; and yet it doth not satiate, nor proves ingrateful for want of sufficient variety: Touching the former of these, it hath been before observed, that he that goes about to make the whole Universe and all the several parts thereof the business of his Enquiry, as he shall find that there are many things therein that he cannot come at, or make any discovery of, so among those parts of the Universe that are objected to a greater discovery of our Senses, the multiplicity is so great, that a man of the most equal and firm constitution, must despair of Life enough to make a satisfactory, particular and deep en-

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quyry into them: But the Object in hand is but one; it is Man, and the Nature of Man.

I confels it is true, that he that shall make it his business to take in as it were, by way of a common place, all those things that may be taken up under this consideration, and follow all those Lines that concenter in this, or almost any other the most single piece of Contemplation, will make this Subject large enough; and upon that account may be drawn in almost all things imaginable: We find in the consideration of the Humane Nature, a Substance, a Body, a Spirit: We find the several Objects of his Senses, Light, Colour, Sound, and infinite more: He that upon this account will take in the distinct and large considerations of these and the like Appendices to Humane Nature, in their full amplitude, will have a large Plain, that will more than exhaust his Life, before he come to the Subject it self which he designs. Again, there is an infinite multitude of collateral considerations that yet are relative to man; hither comes all the considerations of Theology, Physick, Natural Philosophy, Politicks, the considerations of Speech, Government, Laws, of History, Topography, of Arts, of those Sciences that relate to the Senses, of Opticks, Musick, and infinite more; for all these have a relation to Man, and are like so many Lines drawn from several Objects that some way relate to him, and concenter in him; and he that shall make it his business to follow all those Lines to their utmost, shall make the contemplation of Man almost as large as the contemplation of the whole Universe.

When I say therefore the contemplation of Man is the contemplation of a single Object, I mean, when it is kept into those single bounds of Man in his own specifical Nature, and under the physical contemplation of his Nature, Parts and Faculties, as they are appropriate unto him. And then it is a Subject that we may possibly make some progress in its contemplation and conception within the period of the time, that by the ordinary time of Life, and the permission of necessary avocations, a man may employ in such a contemplation.

And yet secondly, though in this restrained notion, the Subject seems to be restrained and single, we shall find it no very narrow Subject; but there will be business enough in it to employ our Faculty, and to take up that time, which either more necessary, or more importunate thoughts or employments will allow us; and variety enough to entertain our thoughts with delight, contentation and usefulness.

3. The Third Commendation of this Object to our contemplation, is this, that therein we have more opportunity of certainty and true knowledge of the Object enquired into, than we can have in any other Object, at least of equal use, worth and value: Many excellent things there are in Nature, which were very well worth our Knowledge, but yet, as hath been said, either by reason of their remoteness from us, unaccessibleness to them, subtilty and imperceptibleness to us, either are not at all suspected to be, or are not so much as within any of our Faculties to apprehend or discover what they are; or in case we have any conception that there may be something of that kind, yet our Notions touching them, are but products of Imagination and Phantasie, or at best, very faint, weak, ungrounded and uncertain conjectures, and such as we
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can never prove to the satisfaction of others or our selves.

Our Sense is the best evidence that we have in Nature, touching the existence of corporeal things without us, and where that is not possibly to be exercised, we are naturally at a great uncertainty whether things are, or what they are. Now the Understanding perceives or understands things by the assistance of Sense in a double manner. 1. It either perceives them immediately, as being immediately objected to, and perceptible to the Sense; as I perceive the Sun and the Stars by my sight; I find that there is a Body hard or gentle, or hot or cold, by my Touch; and accordingly my Understanding judgeth of them: Or secondly, though the Sense perceive not the Object immediately, yet it doth represent certain sensible effects or operations; and though by those effects or operations the Understanding doth not immediately conclude any thing else to be, but what the Sense thus feels or sees; yet the Understanding sometimes by ratiocination, and sometimes by the Memory doth infer and conclude something else to be besides what the Sense immediately represents either as the cause or the concomitant of it, and doth as forcibly and truly conclude the thing to be, and also sometimes what the nature of that cause or concomitant is, as if it were seen by the Eye, or felt by the Hand.

I do not see, nor by any Sense perceive the quiet, undisturbed Air; yet because I do see that a Bladder, that was before flaccid, doth swell by the reception of that which I see not, I do as truly and certainly conclude that there is such a subtil Body which we call Air, as if I could see it as plain as I see the Water: I do not see the Animal or Vital Spirits, neither can they, by reason of their subtilty and volatileness, be discovered immediately to the Sense; yet when I see that forcible motion of the Nerves and Muscles, I do as certainly conclude, there are such Instruments which the Soul useth for the performance of those motions, as if I saw them: I come into a Room where there is no visible or tangible Fire, yet I find by my Sense the Smoke ascending, I do as forcibly conclude that Fire is or hath been near, as if I saw it; because my sensible experience and memory tells me they are concomitant. Upon the same account it is, that when my Sense and sensible experience shews me that these and these effects there are, and that they are successively generated and corrupted, though my eye sees not that God that first made those things, yet my Sense having shewed me these sensible Objects, and the state and vicissitude of them, my Understanding doth truly conclude that all this vicissitude of things must terminate in a first cause of things, with as great evidence and conviction, as if my Sense could immediately see or perceive him: So that in the ordinary way of Nature, and without the help of divine Revelation, all our certainty of things natural, begins at our Senses; namely, the immediate sense of the things themselves, or the sense of those effects and operations which after by the help of the Understanding are carried up to the discovery of things not perceptible by Sense immediately.

Now there may be many things in Nature unto which we can have neither of these accessions of Sense: How many Stars are now discovered by the Telescope, which were never before known, because not perceived by Sense? And how many more there may be, which are not visible to us by that help, we cannot yet know till that discovery: We

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cannot know what the extent of the Universe is, whether there be any Worlds without the compass of this; whether the Heavenly Bodies are inhabited, and with what Creatures: We cannot know the Nature, Constitution, Faculties of created and separate Intelligences, nor the manner of their *Ubi*, Motion, Intellection, mutual Intercourse, or detection of their Minds: These things are out of the reach of our Sense either mediately, or immediately; and consequently without the help of Divine Revelation, we can never upon a natural account, come to any certainty in them; or the most we can otherwise know, is by considering the reflexed acts of our Understanding, whereby we know many acts of our own minds and Soul, which are not perceptible to our external Senses; and upon that account, we may think that there their perception may be something analogical: But Man is an Object of greatest vicinity to himself, and hath thereby, and by other contributions, the best opportunity to know and understand himself with the greatest certainty and evidence.

And yet it cannot be denied, that notwithstanding this great proximity of Man to himself, yea, and notwithstanding the many and great Essayes, Attempts, Enquiries and Observations that have been made in all successions of Ages, by men of excellent Parts, Learning and Industry, we still remain, and are like still to remain ignorant of many things of importance concerning our selves: The great and wise God whose Glory it is to conceal a matter, having lodged many things in the Humane Nature, and Fabrick, and Constitution thereof so secretly and so closely, that notwithstanding the Experience and Observation of near 6000 years, and the search and industry of the best Judgments in all Ages, and the close proximity of Man to himself, there are very many things in our Nature, whereof we neither can, and probably never shall be able to give any account to our selves or others, with any evident, nay with any tolerable certainty; as if the Divine Wisdom meant hereby to give to the Children of Men an instance to keep them humble, that cannot find out the certainty of what they hourly most intimately converse withal; and an indication of his own profound and infinite Wisdom, that can thus keep secret those things, which in regard of their proximity to us, we have great opportunity to know.

And of this nature are many things which we know to be, but we cannot give our selves any sufficient explication of the manner or reason of them. We are certain we have a vital, active Principle in us, by which we see, understand, remember; which we call the Soul. But whence that Soul comes, or how, and when, and in what manner it is united to the Body, whether it be extended with the Body, or indivisible, and in every point of the Body, how and in what manner it exerciseth its nobler acts of Intellection and Volition, or how far forth it stands in need of the Organs actually to exert any of those operations; or how far forth it doth or may exert them without it: how or by what means the *species* not only of sensible Objects, but even of Notions of the Mind are preserved in the Memory without confusion and dissipation, notwithstanding lapse of time, and intervention of infinite variety of Objects: whether it be the same individual principle that exerciseth the acts of Intellection, and likewise of Sense and Vegetation; and if it be, what become of these Faculties subservient to a temporal Life, in the state
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of separation of the Soul: where it is that the exercise of Sense is performed; whether in the Brain, or by the Soul, by the mediation of the Spirits in the extremity of the Nerves; and if the former, how the *Species* of Visibles are carried through those dark Caverns between the *Organ* and *Cerebellum*, supposed to be the Seat of the common Sense. These and many more difficulties, scarce explicable with any sufficient certainty, do occur in the little Shop of the Fabrick of Humane Nature. We must not therefore think, that because of this nearness to our selves, all the *Phænomena* of our Nature can be rendred as evidently explicable as we do or may understand the Fabrick of our Hand by Anatomical Dissection.

But though this vicinity of our selves to our selves, cannot give us the full prospect of all the Intrigues of our Nature, yet we have thereby, and by other opportunities, much more advantage to know our selves, than to know other things without us, and by that opportunity of knowing of our selves, to know the truth or falshood, or analogy of very many things without us, which otherwise could not be so well known or explicated.

1. We have hereby an opportunity to know the Constitutions, Frame and Order of our Bodies: It is true, the great advance of the practice and skill of Anatomy hath laid open to ocular inspection the Fabrick of the Bodies, as well of Brutes and Birds, as Men; and therein they seem to be equally obvious to our knowledge: But a Brute or a Man are another thing, when they are alive, from what they are when dead: Anatomy can give us the Position, Frame, Situation, Figure and connexion of all the several Integrals of the Body of Man or Beast; but it is the living Mans observation of himself, that must give account of those Vital motions that are in the Body when living; as the Pulsations of the Heart, the Circulation of the Blood, the Communication of the Parts, the Congruity or Disagreement between my Nature and other things variously qualified: The Humor that separates, divides, attenuates and digests the Nourishment; the several exertions of the several Organs relating to their several Functions, the things that impede or advance the vital or sensible operations in a man, what impressions are made upon the Blood and Spirits by the several passions of the Mind, what things increase or advance the Spirits, what disorder or discompose them, the immediate and agil subservience of the Spirits to the Empire of the Mind or Soul. These and infinite more touching the Body, are discoverable by Observation, and by no other Observation, so well as by a mans Observation of himself.

2. We have hereby an opportunity to know much more of the Nature, Operations and other things relating to our Souls, than we can touching other things or Natures. There hath been much Dispute among Learned men, concerning the manner of the Intellection of Spirits and Intelligences; and by others, touching the knowledge of Brutes, touching their remembring Faculty, whether they have a kind of Discursive Faculty, which some call Reason; whether they do prescind or abstract touching their Voyces; how far they are significant, and whether they intentionally signify by them, how far their Animal motions are spontaneous, or meerly mechanical, and which are of one kind, which of another; or whether, as *Des Cartes* would have it, all are purely Mechanical.

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Many vain things have been asserted by men that would be counted eminent Wits; but without debating in this place the truth of any of these things, it is no marvel if we are to seek what are the manner of these operations of abstract Spirits or Brutes; we cannot know them, unless we were in them, so as to be acquainted with their inward motions, or at least, unless they had some such way of communicating their Perceptions and Phantasms unto us, as we have to our selves, or one to another: But whatever can be known of them, we may easily by inspecting and observing our selves, know much concerning our own Souls and the operations of them: We may know that we have a principle within, which we do, as it were, feel distinct from our Bodies, whereby we think, and we know we think; whereby we do discursively, and by way of ratiocination deduce one thing from another; whereby we abstract, divide and define, whereby we have notions of things which were never derived to us by Sense, as the Substance or the *Substratum* of those Accidents of things which are derived to us by our Sense; whereby we do correct the errors of our Sense, and judge otherwise touching things represented, than the Sense represents them. The Sense represents the Sun no bigger than a Bushel; there is somewhat within us tells, and that truly, that it is bigger than the Earth, because we find Distance diminisheth the appearance of Bodies: Our Sense tells us that the representation in the Looking-Glass, hath all the motions, the bulk, figure, colour of that corporeal *Moles* it represents, and represents the same under all the renditions of a Body, as it doth the thing it self reflected; but there is that within tells us, and that truly, that it is but a meer shadow, and no real *Substratum* under that appearance of any such corporeal *Moles*: We do most certainly know that there is that within us, that doth exercise a rational Empire over our passions and sensual appetite, that believes, hopes and acts in order to ends that respect another Life than that of Sense, We do find, as it were, the principal seats of these operations, we feel our selves to understand in our Head, and that we will, and resolve, and love, and hate, and pity in our Heart, almost as plainly as we find our selves see with our Eyes, or hear with our Ears: I feel the propensions and inclinations of my Mind as really as I feel my Body to be cold or warm. I find in my self that this inward principle doth exert many of its actions intentionally and purposely; I resolve and cast about to remember things that I would remember; I cast about for all circumstances that may revive my Memory or Reminiscence: When I command any Muscle of my most remote Limb to move, it doth it in an instant; in the moment I will it; and hereby I understand the motions of my Mind are no way Mechanical, though the motion of the Muscle be such; I move, ride, run, or speak, because I will do it, without any other physical impulse upon me, and when I see many analogal motions in Animals, which though I cannot call them voluntary, yet I see them spontaneous; I have reason to conclude that these in their principle are not simply mechanical, although a Mouse-trap, or *Architas* his Dove moved mechanically, from an artificial principle. And because I find that the remotest Muscle in my Body moves at the command of my Will, and since I see the energy of my Soul in every particle of my Body, though not using intellectual actions in every part, yet using some that are imperate, as Local Motion;
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some that are natural and involuntary, as the Pulse of my Heart; the Circulation of my Blood, my Digestion, Sanguification, Distribution, Augmentation: And because at the same time I understand, consider, determine, speak, walk, digest, and exercise, as well intellectual, imperate and involuntary actions, and all from the same vital Principle, though operating differently in several Faculties and Operations: I therefore experimentally feel that my Soul, though it hath the residence of the exercise of his nobler Faculties in my Head and Heart, yet it pervades my whole Body, and exerciseth Vital Offices, proportionate to the Exigences or Use of every part, the Flesh, the Bones, the Blood, the Spirits, Nerves, Veins, Arteries, Seminal Parts; and this I feel to be through my whole Body, and if I find any part of my Body be so mortified as it becomes like a rotten Branch of a Tree, whether it be Nerve or Joint, whereby that principle cannot communicate it self to it, it putrifies and corrupts, and is not participant of the motion or influence derived from my Soul, because it is now no longer in it to quicken it. And as I find my whole Body the Province or Territory of my Soul, in which it universally acts according to the different organization and use of every part, so I find that my Soul, as to its substantial existence, is confined within the precincts of it, and doth not physically act without it; and by all this I learn, that my Soul, if it be a Spirit, may be circumscribed within the compass of a determinate space, that though it be a Spirit, yet its operations while it is in the Body, may be, if not altogether, yet in a great measure, organical. I understand, remember and reason better in my health, than in my sickness; and better in my riper years, than when I was a Child, and had my organical Parts less digested and concocted: And though it be a Spirit, yet I find it is no inconvenience to have some analogy, at least of co-extension, with my Body. And although it may be a simple Spirit, and univocally and essentially the same, as well in my Toe, as my Head, yet according to the variety of the disposition and organization of the several parts of my organical Body, it exerciseth variety of operations; the same Soul that understands in the Brain, and sees in the Eye, and hears in the Ear, neither understands, nor sees, nor hears in the Fingers, but moves and feels.

These and many such Perceptions I have touching that principle of Life, Sense and Intellection within me; and of these I have as great a certainty as possibly I can have of any thing in the world. First, Although I cannot immediately have any immediate sight of my Soul, or of its immediate operations, or internal actings, yet I sensibly see and feel the effects thereof with as great an evidence and demonstration that it is such, as if I saw the Principle it self, and its immediate operations. I sensibly see and feel that my Hand or Foot moves upon the command of that principle within me: And when that principle is removed by a total deprivation, as Death; or by a partial deprivation, as in a mortified Limb or Member; or by a temporary suspension, as in an *Apoplexy* or *Deliquium Animi*; I am sure there is no such motion, because that principle is absent in Death, or its operation suspended in case of such Diseases: It was therefore a principle that was within, distinct from my Body, that while it was there, exerted this Empire, and was obeyed in it. Secondly, In those actings of my Soul, which are not in themselves perceptible by any sensible

ble effect, yet I have as firm and certain an evidence that they are such, as if I had a sensible perception of them: When I think, or understand; or remember, or abstract, or divide, or define, or purpose, or will, it is most certain these effects or intrinsic operations of my mind are not possibly perceptible by my sight, or hearing, or taste, or smell, or feeling; they are objects of such a nature, that fall not under any perception of any of those Senses; yet I am as certain, if not much more certain, that I do think, or remember, or abstract, or reason, or resolve, or will, as that I hear, or see, or feel; and I do as certainly know before I write, what I am now writing, that I think or reason touching the things I am writing, or that I resolve or purpose to write them, as I am certain that I have written them when I have written them; for the motions of my mind are as certainly obvious to a perception in me answerable to them (which I call the reflex act of the Soul, or the turning of the intellectual eye inward upon its own actions) as the motions or rather passions of my Sense are certainly obvious to my Sense; I see the Object, and I perceive that I see it: And therefore though he was a little too positive that said, *Ego cogito*, was, as it were, the *primum cognitum*, yet certainly herein he was irrefragably true, that there cannot be any thing more certain and evident to a man that thinks, than that he doth think; and yet that Thinking is not perceptible by any of our five Senses. Thirdly, But there is yet a farther opportunity of very much certainty in that knowledge that a man may have of himself, and of those things concerning himself; by that conversation, by the help of speech or signs that he hath, or may have with other men. Man only, of all visible Creatures, having this privilege of communicating his thoughts and conceptions by instituted signs of speech or writing; and by this a man acquires a threefold super-added certainty of what he may or doth know concerning himself: Namely,

1. He thereby knows that there is a specific Identity between him and other men, and that they agree in one common rational Nature; for by mutual speech we find that we have both alike an intellective, discursive Faculty, as I do reason, so doth he; as I divide, define, abstract, purpose, determine, will, so doth he use the like operations of his Mind; and although oftentimes interest and misapprehension make us differ in our conclusion, yet he endeavours to maintain his Conclusion by the like method of Reason and discursive Ratiocination as I do; and most times when prejudice and misapprehensions are removed, that which seems reasonable to him, seems so to me; whereby it appears that we concenter in one common Nature, and that the Principle of Reason and Reasonable Soul is common to us both, and that we meet in one common rational Nature.

2. He likewise knows that as they concenter in one common rational Nature, so every one of that *species*, hath yet an individual Principle of his own, that individuates, and personally discriminates one from another: For till we mutually communicate our thoughts by instituted signs, he knows not what I think or purpose, nor I what he thinks or purposeth.

3. This adds a certainty to me that I am not deceived in those reflections that I make upon my self, and the collections I make from them;

them; for as I do find I think, I reason, abstract, divide, define, purpose, so I find by the help of Speech and Signs that he hath the very like internal operations; and as I do find that those do arise from a principle different and distinct from that *moles Corporea* which I have, so I find that he hath the same perception of the original of these internal operations, and attributes them to a Principle in him distinct from the Body: So that if I might have any imaginable doubt of those reflexed perceptions which I have touching those appropriate operations of my own Mind, I am confirmed in them, because I find the like perceptions in all the men I converse with. And thus far touching the third Commendable in the search of our selves, namely, Certainty and Evidence.

4. The fourth advantage of this subject and the knowledge thereof is, the profit and usefulness thereof: Next to the knowledge of Almighty God, and our Blessed Saviour, and the Sacred Scriptures, there is not any subject in the World that is more necessary and useful to be known than the Humane nature, with those incidents that do necessarily fall into that consideration; and of all the knowledge that relates to man, there is nothing of greater moment or use to be known than Man under the Physical notion of his Body and Soul, and both united together. And the usefulness of this Consideration distributes it self into these two kinds; Usefulness in reference to Speculation or Knowledge, and Usefulness in relation to Practice or Exercise.

1. Touching the Speculative Usefulness there is this to be said, that there is in the contemplation of Man a means of discovery and explication of very great and momentous truths. And although possibly the very same truths may be elicited, and in some measure explicated by parallel *Phænomena* in the contemplation of Animals, yet they are more clearly and eminently evidenced in the contemplation of Man, who, by how much the more excellent and noble a Creature he is above Brutes, and by how much he is the more observable to himself than they can be, by so much the more useful and excellent is the knowledge of himself.

Now these Speculative truths which I shall chuse to instance in shall be these.

1. The due contemplation of the Humane nature doth by a necessary connexion and chain of Causes, carry us up to the unavoidable acknowledgement of the Deity; because it carries every thinking man to an original of every successive individual thereof by a course of generation, till it come to a common Parent of the whole *Species*, the immediate workmanship of the Glorious God.

2. Consequently, it gives every considering man a sound and full conviction that the efficient of this first Parent of Mankind, is a most wise, most powerful and beneficent Being. For the true prospect of the Humane Fabrick in its essential and integral parts, in the fabrick of his Body, and the faculties and operation of his Soul must needs convince any man of ordinary reason, that can observe but clear and evident consequences, that the Efficient that first made this first root of Mankind was not only an intelligent Being, but a Being of most admirable Power, Wisdom, and Goodness; for such this effect doth necessarily declare its Efficient to be.

3. As the contemplation of the Origination of the *Species* of Mankind gives us an assurance of the Existence of the first Cause, and of his Attri-

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bute of Wisdom, Power, and Goodness; so the contemplation of the secondary origination of Mankind, or the production of the Individuals by generation gives us an evidence of the like power, wisdom, and goodness of God, and a little Emblem of the Divine Power in the Creation of the World. Any man that attentively considers the progress of the generative production of mankind, will find, that this goodly and noble Creature called Man hath its gradual formation and complement from a small, almost imperceptible vital principle, which by the Divine institution is endued with such a regular, orderly, and unerring power, that from most inconsiderable and unlikely materials builds up gradually the goodly frame of the Body, cloaths it self with it, and exerciseth an admirable Oeconomy over it: And this it doth not by such a kind of choice, deliberation and forecast as the Watch-maker makes his Watch; for as yet this vital rational principle doth not exercise an actual ratiocination or discursive deliberation, neither hath those organs of Heart, and Brain, and Spirits, and Vessels (by the help of which we exercise our Acts of Reason) till it hath made and framed them. And yet this admirable Frame is immediately wrought by this little particle which we call the Soul, and moulded, formed and perfected with an incomparable and unerring dexterity, skill, elegance, and curiosity more and greater than the most exquisite Artist can shew in the most polished piece of Artificial work.

Now if this little spark of Life that in this work of generation and formation is *Vicarius Dei*, the Instrument of his power and wisdom; if this little imperceptible *Archeus* is endowed by the Divine power, wisdom, and institution with this admirable, regular, and effective power out of so small, inconsiderable and unlikely materials to mould up and fashion the goodly Fabrick of Humane Nature, and to perfect it for a complete habitation for it self, wherein to exercise its most excellent oeconomy and operations; if this *Pusillus divinae lucis radius, ex tantilla & tam improbabili materia particula mirandam naturae humanae fabricam tam affabrè, eleganter, & inerrabundè formaverit*. If we find in so small a particle of a created Being this admirable energy, why should we make a question whether that God that at first gave this admirable energy to the Soul to frame so goodly a piece out of matter so near to nothing, should not have power to create a World of matter out of nothing.

2. Again, since I do see as plainly as I see my Paper that I now write upon, that this fabrication of the Humane Body is the immediate work of a Vital principle that prepareth, disposeth, digesteth, distributeth and formeth the first rudiments of the Humane nature when it is no bigger than a little Bean; that afterwards gradually augmenteth and perfecteth it to the goodly complement of a Man: And the same thing I see in the first rudiments of all generations as well vegetable as animal. It doth give to me (notwithstanding all the bold confidence and conjectures of *Epicurus*, and those that follow him as far as for shame they durst) I say it doth give me not only an undeniable evidence, but an exemplar in analogy and explication, that the coalition of the goodly frame of the Universe was not the product of chance, or fortuitous concurrence of particles of matter, nor the single effect of matter and motion; but of the most wise and powerful ordination of the most wise and glorious God, who thus
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ordered the World, and instituted that Rule, Order, or Law which we call Nature to be the Law of its future being and operation; if I see that the Coagmentation of a Man, nay of a Chicken or a grain of Wheat is not by casualty, but the wise and powerful God hath committed the Coagmentation, Disposition, and Formation thereof to their Seminal Principles, *tanquam Vicariis & substitutis Divini Numinis Instrumentis*, as it were to Vicegerents and subservient Instruments of the Deity: I have no reason to think that the goodly Frame of the Universe was the production of Chance, or Accident, or bare Matter, or its casual motion or modification thereof; but that the same was the Contrivance and Work of the Great, Wise, and Glorious God, as a Work in a great measure answerable to the Excellency of such an Efficient.

3. Again, I find a sort of Men that pretend to much severity of Wit, and would be thought too wise to be imposed upon by Credulity, where they think they have not evidence enough of Sense or Reason to convince them; that would be thought to be Men above the common rate; these have gone about, as far as they durst, to exclude God out of the World, and pity those Men as troubled with Credulity, and of weak Parts, that believe the Regiment of Divine Providence; a business that they think, or pretend to think may be made use of to impose upon the weaker part of Mankind, think it a Fiction, and such as is utterly inexplicable to the satisfaction of a reasonable and impartial judgment. Now the due contemplation of the Humane Nature, and that Oeconomy that the Active Principle in it ordinarily called the Soul doth exercise therein to my Understanding, gives me both a reasonable evidence of the Divine Providence governing the World, and a fair explication of it to me.

I mean not in this place to examine the truth or falsity of the Plurality of Subordinate Forms, or whether there be two or three distinct Substantial Forms or Souls in Man, whereby he is *Vivens, Sentiens, & Intel-ligens*; for they are proper for a farther Examination in their proper place: But at present I do suppose, that that one Soul, whereby Man is constituted in *Esse Hominis*, is the single Principle of all his operations of Life, Sense, and Intellection; because, as to this purpose which I am now upon, it comes all to one whether there be a Unity or Plurality of Subordinate Forms, or of Souls in the Humane Nature.

I say therefore, in the Humane Fabrick we may observe two kinds of Forms, if I may so call them; the one, the *Forma Corporis*, as such whereby it hath those Properties or Operations which are common to Bodies of the like make or composition; whereby it is weighty and descends as other Bodies, it is figured, it hath dimensions and qualities common to other Bodies; it hath in it some parts more active and fiery, others more passive and waterish, or earthy; it hath its tendencies to corruption and dissipation: And though after the separation of the Soul from the Body, it perchance loseth some of those particular Qualities, Figurations and Properties that it had before, yet it retaineth many of them; for many of these Proprieties of a Body as such, do not depend upon the Specific Form of the Humane Nature as such: Again, there is in this Body a certain Active Specific Form, whereby it is constituted in *Esse Hominis*, which hath in it, and doth communicate to the Body certain operations specific to it; by this he exerciseth those operations which either flow from or

are communicated by that Form, as Life, Sense, Intellection, Volition, and the like: And though Life and Sense be common to Man and Brutes, and their operations in many things alike, yet by this Form he lives the Life of a Man and not of a Brute, and hath the Sense of a Man and not of a Brute: For there is no such thing as *Animal*, or *Vivens*, not determined unto some particular *Species*, as there is no such thing as a Man not determined in some individual: For Universals are but Notions and *Entia Rationis*, having their existence only in the understanding power, and not in reality.

And these Operations and Faculties of Humane Life, Humane Sense, and Humane Understanding and Volition flow not from the corporeal *Moles*, but from some other active regent Principle that resides in the Body, and governs it whiles it lives, which we call the Soul. And therefore although the corporeal *Moles* after some kinds of Deaths retain the same bulky Integrals, the same Figure, Colour, and many other accidents; yet the Soul being removed, the Faculties and Operations of Life, Sense, and Intellection cease from that *Moles corporea*, and are no longer in it.

This Principle of Life, Sense, and Intellection in Man called the Soul, hath the Body as its Province and *Districtus*, wherein it exerciseth these Faculties and Operations: and we shall find the Actions which are performed by it in the Body are of three kinds or natures; 1. Some are immanent, and not terminated immediately in any external or corporeal action. 2. Some are transient and spontaneous, terminating in the Body, or some parts or motions thereof. 3. Some transient, but involuntary, and exercised and terminated in or upon the Body.

These seem to be the several kinds of Actions of the Soul, at least relating to the Regiment and Oeconomical Government of the Soul upon the Body.

1. The internal and immanent Faculties and Acts of the reasonable Soul (besides those of Common Sense, Phantasie, Memory, Passion and Appetite, common to Men and inferiour Animals) are Intellect and Will; and the proper Acts of the Intellect are Intellection, Deliberation, and Determination or Decision: The proper Acts of the Will are Volition, Nolition, Choice, Purpose or Resolution, and Command in relation to Subordinate Faculties: And although there be many actings both of the Intellect and Will that are relative to other things or objects than what immediately concern the Microcosm it self; yet the principal part of that analogical Providence that the Soul exerciseth in relation to the Microcosm or Humane *Compositum* are Intellection, Deliberation, and Determination in the Understanding; and Choice, Volition, Nolition, and Purpose in the Will; and these do or should regularly precede all those imperate Acts of the Soul that relate to the *Compositum*: Before I write, or speak, or go a journey, or eat, or any the like action, there is the deliberation of the Understanding, whether I shall do this action; the decision of the Understanding, that it is fit to be done; the choice of the Will to do it; the purpose of the Will that it shall be done: And although many times the distinction of these several procedures of the Soul do not always appear distinct, especially in sudden or ordinary actions, which seem to have but one act antecedent to the thing done, namely, the willing of it to be done; yet

yet in actions of weight and importance all these have their distinct order and procedure. For although in the most incomprehensible and perfect Will of Almighty God there is no such succession of procedure; yet in the operations of the rational Soul that is linked to the Body, there is ordinarily that successive procedure of those immanent acts of the Soul that relate to any thing to be done. This therefore is the first part of that analogical Providence that the Soul exerciseth in relation to the Body, namely, deliberation or counsel, and decision in the Intellect; and choice and purpose in the Will.

2. The next Act, which immediately succeeds Purpose, is the Command that is given by the volitive Faculty of the Soul, and the Execution thereof: and herein are considerable, First, The Power commanding, which is the Will, now determined by purpose or resolution. Secondly, The things to which these commands relate, or the Object of them, which in relation to the Body is in effect nothing but motion of the Spirits, Nerves, Muscles, parts of the Body, or the entire *Compositum*; by virtue of this command the Muscles, the Hand, the Eye, the Tongue perform those imperate commands of the Will; I do not digest, sanguifie, nor my Heart move; nor my Blood circulate, nor my Meat digest by any immediate command of my Will; but I eat, I drink, I move my Eye, my Hand, my Muscles, my whole Body in pursuance of this command of my Will. Thirdly, The executive Instrument of this command mediately are my Nerves and Muscles, but immediately those subtil, invisible and forcible Engins which we call the Animal Spirits; these being the most subtil parts in Nature, and parts of matter subtilized, next in degree of purity to that Soul that commands them, are in their nature proper, fit, and suitable to be the first recipients of the Empire of the Soul; they are the nimblest, agil, strongest Instruments, fittest to be executive of the commands of the Soul; they are a middle nature between the Soul and the Body, the *nexus anime* to the Body; and these subtil Messengers speedily dispatch themselves through the Nerves to the Muscles, which are by these Spirits and the native *Indoles* that is in them and the exact texture of them fitted to move those Integrals of the Body to which they serve; and as the Spirits shot through the Nerves are the first and immediate Instruments of the Soul in its imperate acts, so the Muscles are as it were the Instruments of the Spirits, or the remote Instruments of these imperate motions: And by this means the Soul hath the actual *imperium* and command of all those motions of the Body which are spontaneous or capable of being commanded by the volitive Power of the Soul; 'tis by this the Eye-lid opens or shuts, the Eye is converted to this or that object, the Lungs are intended or remitted, the Tongue speaks, the Hand strikes or moves, the Foot walks, the Mouth opens or shuts, and all those spontaneous motions subject to the Empire of the Will are performed: And though I chuse my Instance in the subject in hand, yet the like imperate motions are in Brutes and Animals, though not by the Empire of Will, which they have not, yet by a Faculty that moves in many things spontaneously in some analogy and adumbration of the Empire of the Will in Man, but incomparably below it both in perfection and freedom.

3. Again, there be very many Operations, that although they flow from

from this active Principle, yet they are not acts that are imperate by the Will; but they are in a manner natural and involuntary; and therefore I call them sometimes Involuntary, sometimes Natural, and they are very many and various; such are many of the acts of Sense, especially the external. Though I do by the Empire of my Will direct the Motion or *Acies* of my Organ to this or that Object, yet my Eye, my Ear, my Touch, my Smell, my Taste exercise their office of perception upon the Object duly applied to them, without any act of my Will commanding them so to do when they are joyned to their Object: So my Heart moves, my Blood circulates, my Meat digests, my Body is augmented, without any intention of mind to assist their actings. So if there be an ill humour in my Body, or a wound in my Hand or Leg, the Vital energy of my Soul thrusts out the Balsamical humour of my Blood to heal the latter, and useth all that Oeconomy that is proper for the expulsion or subduing of the former; sometimes by *pustula* or eruptions in the flesh, sometimes by sweat, sometimes by urine, sometimes by seige; and all this it doth in the most congruous way imaginable; so that the best Physicians have not better direction ordinarily in their applications, than to follow Nature in those motions. And all this is done most exquisitely, and yet without any deliberation or rational decision of the Understanding or Empire of the Will in relation to those Natural motions. I shall only therefore observe concerning these Involuntary motions, 1. That though they are without any *dictamen Rationis*, yet they are done in a way of as great congruity to its end, as if they were directed by the wisest counsel of the wisest Soul; and it is reason good it should, for it is a standing and most wise Law of exercise planted by the most wise God in this Vital Principle for the regiment of the Body: And therefore though it be not directed by deliberation of the Humane Intellect, or choice of Humane Will, it is settled, contrived, implanted and directed there by a higher Wisdom, even the Wisdom of the most wise God: And this indeed is the reason of that Excellency that is seen in Instincts, even of Brutes, and the Formative process in generation; that they so aptly and excellently attain their Ends: namely, because these Instincts and Powers are the immediate Impressions, Signatures and Energies placed in them by the Great and Glorious God, whose very foolishness, as the Apostle tells us (namely the seemingly vilest and lowest Impressions of his Wisdom) is wiser than men. 2. The second thing to be observed herein, is, That those Natural and Involuntary actings are not done as the former, by deliberation and formal command, yet they are done by the virtue, energy, and influx of the Soul, and the instrumentality of the Spirits as well as those Imperate acts before spoken of; wherein we see the immediate empire of the Soul: That Soul that moves my hand, my tongue, my foot by way of express command and empire; digests, sanguifies, carnifies, excerns and doth all those Involuntary operations by its influence and presence: remove but the Soul, there is no more digestion, sanguification, or any other acts of that kind, than there is speech in the tongue. And although in some Insects there appears a palpitation of the Heart for some little space after it is severed from the Body; and in Chicken and other Fowl, after the separation of the Head from the Body there is a motion of the parts divided, yet it lasts not long, and they are but the irregular
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and convulsive motions or struglings of those Spirits which could not so hastily dismiss themselves from the vessels wherein they were inclosed.

I would now observe some generals in relation to this Adumbration of Providence and analogical Oeconomy of the Soul in the Body, which are these: 1. That this analogical Providence of the Soul in relation to its Province the *Compositum* or Microcosm is universal to every part of it; there is not the most inconsiderable particle of Flesh, Bone or Artery, not the smallest Capillary Vein but it is present with, and auxiliary to it, according to its use and exigence, and the congruity of its constitution; it accommodates it self to the Eye for seeing, to the Ear for hearing, and though it accommodate not it self to the Finger in those exertings of those Senses of Seeing or Hearing, yet it equally accommodates it self to those remote and small Organs as perfectly in relation to Feeling, and to those motions that are suitable to them. 2. That even those Exertions of the active Energy of the Soul that seem most remote from the deliberation of the Understanding and immediate active Empire of the Will, are guided and directed with all imaginable congruity to their several Ends and Uses. 3. That this very same individual Soul may, and oftentimes doth exert all those operations at the same time without any difficulty or confusion: At the same time I think, I deliberate, I purpose, I command: in inferiour Faculties; I walk, I see, I hear, I digest, I sanguifie, I carnifie, my Lungs move swifter or slower by the empire and command of my Will, my Heart moves naturally by the motion of Palpitation, my Blood by the motion of Circulation, Excretion, Perspiration; my Guts by the motion of Vermiculation, my Stomach and Intestines digest, the good ejects and expulses the bad, my Disease is resisted and expelled, my Wound cured, and a thousand more concurrent, coincident Motions, and all these performed at the same time by the Power, Energy and Oeconomy of one individual Soul, and yet all this done easily, and sweetly, and perfectly; without either lassitude, confusion, or perturbation.

And all this done by a little spark of Life, which in its first appearance might be inclosed in the hollow of a Cherry-stone, yet this little active Principle as the Body increaseth and dilateth, evolvet, diffuseth and expandeth if not his Substantial Existence, yet his Energy and Virtue; to the utmost confines of his little Province and every particle and atom thereof; yea and it is of that absolute necessity that it should do so, that without it the *Compositum* would be dissolved, and the Body dissipated into corruption and first principles, as we see it falls out suddenly after the separation of the Soul from the Body: As the Body could not be reduced into that orderly frame in which it is constituted, without the Plastick and Formative power of the Soul, so it could never be upheld in that state of Order and Convenience without the continued Influence of the Soul: The latter is as absolutely necessary for its continuance and conservation, as the former for its constitution.

I easily foresee two Objections against the Method proposed; 1. That the *Hypothesis* it self is not sufficiently evidenced: How do we know that this Oeconomy is the effect of a Power, or Nature, or Being distinct from the Body? and why may it not be the result of this Disposition, Harmony, or Contemperation of qualities or parts of that Matter that constitutes the

the Body? 2. And if it be, what need we magnifie the Humane Nature as the great Inſtructor in this buſineſs; ſince we may with a little obſervation find very much the like in Brutes as well as Men? For there we find a ſenſible Perception and Phantaſie anſwering the Intellect in Man; an Eſtimative or Judicial faculty, an Appetition or Averſation and Locomotive faculty anſwering the Will; and the very Oeconomy of the animal Soul or Spirits managing as well their ſpontaneous actions as theſe natural or involuntary exertions of Diſteſtion, Egeſtion, Circulation, and the reſt of thoſe Motions called Involuntary or Natural.

To the Firſt of theſe I ſay, That this is not the place for a large reduction of theſe Operations to the regiment of the Soul as a diſtinct active Faculty, diſtinct from the Corporeal *Moles* and its contemperation, that ſhall, God willing, in its due place be at large diſcuſſed; which I am not here willing to anticipate. In the mean time, let the Objector but honeſtly and impartially examine and obſerve Himſelf, and he will need no other evidence of this truth but his own experience to ſatiſſie him, that all thoſe effects proceed from an active, regnant Principle within him, diſtinct from the *Moles corporea*, or the contemperation thereof. The diſtemper of the humours of the Body cauſe ſometimes ſuch ſickneſs as diſorders the Phantaſie and Reaſon; but ſometimes though it diſtempers the Body, the Intellective faculty and operations are nevertheless free and ſound, as Experience ſhews. If this Objector was ever under a Sickneſs or Diſtemper of the latter kind, let him give an account what it is that gives him under ſuch a Diſeaſe the uſe of his Reaſon.

To the Second I need not ſay more than what I have before obſerved, namely, 1. That although the Inferiour Natures have a kind of Image of the Humane Nature, yet it is leſs perfect, and therefore no equal Inſtance in order to the explication of what I herein deſign. 2. As it is leſs perfect, ſo it is more diſtant and leſs evident to us, than our ſelves are or may be to our ſelves; the Regiment and Oeconomy of our own Souls in our Bodies and of them are more evident to us and perceptible by us, than that Regiment and Oeconomy that the Souls of Brutes exerciſe in them, and therefore fitter to be made our Inſtance of that which I go about thereby to illuſtrate; namely, the poſſibility, neceſſity and explication of the Divine Providence in the governing and influencing of the Univerſe and all the parts thereof, which I ſhall in the next place proſecute in the Analogy that this ſmall Regnant Principle bears within its little Province to the Divine Regiment of the Univerſe.

Sic parvis componere magna.

I come therefore to the illuſtration of the Divine Providence, and Regiment of the World by the foregoing Emblem thereof.

1. By this ſmaller Inſtance of this Regiment of this leſſer World by the immediate preſidency of the Soul, it ſeems evident that it is no way impoſſible but that the greater World may be governed by the Divine Wiſdom, Power, and Providence. It is true, there are theſe two diſparities between theſe, namely, the greater World and the leſſer: The greater

greater World is of a more vast extent ; and again, the Integrals and Parts thereof are of greater multiplicity and variety ; but neither of these are any impediment, because the Regent thereof is of an infinite immensity more than commensurate to the extent of the World, and such as is most intimately present with all the Beings of the World, and of an infinite Understanding, Wisdom, and Power that is able to apply it self to every created Being, and therefore without any difficulty equally able to govern the whole and every part thereof : This we see in Natural agents, that little spark of Life, the Soul, that exerciseth its regiment upon an Infant of a span long, when the Body is grown to its due stature, and together with the extension of the Body this little Vital particle evolves and diffuseth it self to the extent of the enlarged Body, governs it with the same facility as it did before that extension. And the sensible Soul of a vast Whale exerciseth its regiment to every part of that huge structure with the same efficacy and facility as the Soul of a Fly or a Mite doth in that small and almost imperceptible dimension to which it is consigned. For the Soul is expanded and evolved, and present to every part and the uttermost extremity of the greater as well as the lesser Animal. And therefore if my Soul can have its effectual energy and regiment upon my Body with ease and facility, with how much more ease and facility can a Being of immense Existence and Omnipresence, of infinite Wisdom and Power govern and order a great but yet a finite Universe, and all the numerous yet not infinite parts thereof ?

2. As there is a possibility of such a regiment of the Divine Wisdom, Power and Influence in the Government of the World, so there is a necessity of it. It is not enough for the Soul of the Humane Nature to form and mould its Corporeal Vehicle, if it gave over its work when that were done, it would soon dissolve, dissipate and corrupt. There is the same necessity for the Divine Influence and regiment to order and govern, conserve and keep together the Universe in that consistence it hath received, as it was at first to give it before it could receive it : The intermission of that Regiment and Divine Providence and Influx but a moment after the constitution of this World would have dissolved its order and consistence, if not annihilated its Being.

And indeed, he that observes the great variety of things in the World, the many junctures and contributions of things that serve to keep up its consistence, the want of any of which (as the disorder of a little Nerve, Vein, or Artery in the Body) would bring it into a great disorder, the continual strife between contrary qualities, the strange activity of the active Fiery Nature that involves it, or at least is disseminated up and down in it ; the vast and irregular concretions of Meteors, and those strange and various *Phænomena* that are in the World, which as they proceed from or are found in the Integrals of the Universe, are devoid not only of Reason but of Sense. And he that after all this shall see the World upheld without any considerable decay or defect, in the same state and order as it hath been for many Thousands of years, will upon a due and impartial search find that it were far more impossible that this could be without the Wisdom, Power, and Influx of a most Infinite, Omnipresent, Omniscient and Omnipotent Fixed Being, than for the Humane Body to be kept without dissolution and putrefaction,

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faction, being destitute of the influx and regiment of its Vital Principle the Soul.

And therefore some of the Ancients that were willing to solve the *Phænomena* of the World, have (though erroneously) thought that the World was Animate, and that all these Operations in the World proceeded from that *Anima Mundi*, as the Operations in the Bodies of Men proceeded from that *Anima Humana* that lodged in it; and at length finding so great effects that are and may be done by this supposed *Anima Mundi*, according to their *Hypothesis*, have at last proceeded in plain terms to determine that this *Anima Mundi* was, in truth, no other than the Glorious God; whereas they might with much more ease and truth have attributed all the great Oeconomy of the Universe to the most Glorious God, without dishonouring him into the existence of a *Forma informans*, or a constituent part of that World which he made.

Others to amend that absurdity, and yet out of a piece of mannerliness and respect, as they think, to God, though they deny this Universal Soul or Form informing of the whole Universe, yet without any sufficient ground have devised several Systems of the Universe, and assigned several Souls to each System or *Vortex* at least, which should be the immediate Regent in every such System, as the Soul is in the Body: This, as it supposeth something without evident ground, so it doth without any necessity: For the Divine Wisdom and Power is sufficient for the management and government of the whole Universe; and if such *Animæ Systematum* should be granted, yet still there must be some one common Regent of all these Systems and their respective Souls, or otherwise disorder would follow between the Systems themselves.

But thus far even those suppositions bear witness to the necessity of a Providential Regiment of the parts of the Universe; that bare Matter, Motion, and Chance cannot perform this business, but that there is a perfect necessity of a Regent Principle besides it, which may govern and dispose it as the Soul of Man doth his Body: And even that supposed regiment of these particular Souls of every System, as they must needs have it, if they had it at all, from the institution and efficiency of the Wise God, so they are all continually influenced from him, and the whole College of them governed, guided and ordered by him as their sovereign Regent.

3. The Third thing that I design is this, That although it is impossible for any Created Being, or the Operations thereof, to hold a perfect Analogy or adequate Representation of the Divine Wisdom, Power, and Providence in the governing of the World; because the Wisdom and the Ways of Almighty God are unsearchable and past finding out; they are of such a perfection that no Created Being or Operation thereof can be a just Parallel or adequate Resemblance of them; yet there seems to be such an instance in the regiment which the Humane Soul exerciseth in relation to the Body, that with certain correctives and exceptions may give some kind of Explication or Adumbration thereof, whereby though we can never get a complete *Idea* of the Divine Regiment, yet we may attain such a notion thereof as may render it evidently credible, and in some kind explicable.

1. The first act of the Divine Nature relating to the World and his admini-

adminiftration thereof is an immanent act: The moft wife counfel and purpose of Almighty God terminated in thofe two great tranfeunt or emanant acts or works, the works of Creation and Providence.

The Divine Counfel relating to the work of Creation, is that whereby he purpofed to make the World, and all the feveral Integrals thereof, according to that moft excellent Idea or Exemplar which he had defigned or chofen, according to his infinite Wifdom, in thofe feveral ranks and methods, and in that order and ftate wherein they were after created and made.

The Divine Counfel relating to his Providence, or Regiment of the World, feems to confift in thefe two things: 1. A purpose of communication of an unceffant influence of his power and goodnefs for the fupport and upholding of things created, according to the feveral effential ftates and conditions wherein they were made; fome being created more durable, fome lefs; fome in one rank of being or exiftence, fome in another. 2. A purpose of instituting certain laws, methods, rules, and effluxes, whereby he intended to order and rule all the things he had made with the greateft wifdom and congruity, and according to the natures and orders wherein he had created them.

And this is that which I call the law, rule, and regiment of Divine Providence, and feems to be of two kinds, namely, general Providence and fpecial Providence.

The general Providence I call that whereby every created Being is governed and ordered, according to that effential, connatural, implanted method, rule, and law wherein it was created. And thus the ftate and feveral motions and influences of the Heavenly Bodies is that general providential law wherein they were created, and according to which they are governed; and the fufceptibility of thofe influences, and the effects thereof, and of that motion, is the general providential law, whereby other physical Beings are governed in relation thereunto; the activity of the active Elements, and the paffivenefs of the paffive, the methods and viciffitudes of generation and corruption, the efficacy of natural caufes, and the proper effects consequential to them, the natural properties or affections of Bodies according to their feveral confutations, as motion, alteration; afcent of light, defcent of heavy Bodies. Thefe and the like are the general providential Laws relating to them. Again, that things indued with fenfe fhould have a fenfible perception, and certain inftincts connatural to them, that rational and free Agents fhould move rationally and freely. Thefe and infinite more are the ftanding and ordinary Rules and Laws of general Providence, and the wife God, who fees all things from the beginning to the end, and therefore can neither be difappointed nor overfeen in any of his Counfels, hath with that great and admirable Wifdom fo ordered thefe Laws of his general Providence, that he thereby governs moft excellently the World; and they are never totally changed, and but rarely altered in particular, and that only to moft wife ends, and upon moft eminent occafions.

And the reafon is, becaufe the Infinite Wifdom of God hath fo instituted and modelled thofe natural Laws, that they are *ad omnem eventum* fitted to the ordinary adminiftration of the World. When the wifeft Counfel of Men in the World have with the greateft care, prudence and foresight,

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made Laws, yet frequent emergencies happen which they did not, nor could foresee, and therefore they are necessarily put upon repeals, correctives, and supplements of such their Laws: But Almighty God by one most simple foresight foresaw all Events in Nature, and could therefore fit Laws of Nature that might be proportionate to the things he made, and not stand in need of any change in the ordinary administration of his Providence.

The special Providence of God is so denominated either in relation to the objects which are special, or in relation to the acts themselves.

Special Providence in relation to the objects, is that Providence which Almighty God exerciseth either to Man or Angels in relation to their everlasting ends, such as are Divine Laws and Institutions, the Redemption of Men by Christ Jesus, the Message of the Gospel, and the like.

Special Providence in relation to the acts themselves, are those special actings of the Divine Power and Will, whereby He acts either in things natural or moral, not according to the Rules of general Providence, but above, or besides, or against them: And these I call the Imperate Acts of Divine Providence; whereof in the next place.

2. Analogal to the imperate acts of the Soul upon the Body are the imperate acts of Divine Providence, whereby with greatest wisdom and irresistible power He doth mediately or immediately order some things out of the tract of ordinary Providence. For although the Divine Wisdom hath with great stability settled the Laws of his general Providence, so that ordinarily or lightly they are not altered, yet it could never stand with the Divine Administration of the World, that He should be eternally mancipated to those Laws he hath appointed for the ordinary administration of the World. Neither is this, if it be rightly considered, an infringing of the Law of Nature, since every created Being is most naturally subject to the Sovereign Will of his Creator; therefore though He is sometimes pleased by extraordinary interposition, and *pro imperio voluntatis*, to alter the ordinary method of natural or voluntary Causes and Effects, to interpose by his own immediate Power, He violates no Law of Nature, since it is the most natural thing in the World that every thing should obey the Will of him that gave it being, whatever that Will be, or however manifested.

Now the Instances that I shall give touching these *actus imperati* of Divine special Providence shall be, 1. In things simply natural: 2. In things voluntary or free Agents.

In things natural we have these Instances of the *actus imperati* of the Divine Providence, namely, first those that are real and also appearing Miracles, as *Moses* his Rod turned into a Serpent, our Saviours miraculous curing of all sorts of Diseases, and raising the Dead, and the like: Again, there are other things, that though they are natural effects, and not in themselves apparently miraculous, yet are in truth the *actus imperati* of the Divine Providence, Winds and Storms, Hail and Thunder, and many the like, are things that are in themselves natural, yet when they are in such a season and such a juncture, they may be and are, and possibly more often than we are aware, *actus imperati specialis providentia*: The East Wind that brought the Locusts, and the West Wind that carried them off from *Egypt*, *Exod.* 10. 13, 19. The East Wind that divided

divided the *Red Sea*, *Exod.* 14. 21. The Hail that slew the *Canaanitish* Kings, *Josh.* 10. 12. The Rain and Drought, *1 Kings* 18. *Amos* 4. 7. Thunder and Lightning, *1 Sam.* 13. 18. Yea the very Blasting, and Mildew, and Caterpillar, and Palmer-worm, *Amos* 4. 9. are sent by God. The ravenousness of a Lion or Bear are natural to them, yet the mission of them upon an extraordinary occasion may be an *actus imperatus* of Divine Providence, *1 Kings* 14. 24. *2 Kings* 2. 24. And although we often attribute as well mischiefs as deliverances to accidental natural Causes, yet many times they are *actus imperati* of the Divine special Providence, as much and as really and truly as the motion of my Pen is the *actus imperatus* of my Will at this time.

And if we enquire how these things are effected, though it may be they be sometimes effected by the immediate *Fiat* of the Divine Will, yet I have just reason to think they are most ordinarily done by the Ministration of Angels, as the destruction of the Host of the *Assyrians*, and divers other great Exertions of these imperate acts of Divine Providence. *Psal.* 103. *His Angels that excel in strength, that do his commandments, hearkning to the voice of his word,* That as the more refined and efficacious Matter, which we by way of analogy call Spirits, are the executive Instruments of the *actus imperati* of our Will, so these true and essential Spirits are ordinarily the immediate Instruments of the imperate acts of Divine Providence.

And therefore although many times Effects purely natural, that have their Originals meerly by the ordinary course of Providence, are ordered by special Providence unto great and wonderful Events, yet it seems to me very plain, that there be many natural productions that it may be in the immediate Cause, or second, or third, may be purely natural, yet at the farthest end of the Chain there is an Agent that is not simply natural (as we use to call natural Causes) but voluntary, sometimes in the first production, sometimes in the restriction, sometimes in the direction of them, for otherwise we must of necessity make all successes in the World purely natural and necessary, and Almighty God would be mancipated to the Fatality of Causes, and to that Natural Law which he gave at first, and Prayers and Invocation upon Him in case of any calamity would be unuseful and ineffectual.

And therefore though Almighty God do not create a Wind for every emergent occasion, but the Wind is a Vapour breaking out of the Earth, yet the Ministration of an Angel may restrain, open, excite, direct or guide that Vapour to the fulfilling of those imperate acts of Divine special Regiment. And it is observable, that although the regular part of Nature is seldom varied, but ordinarily keeps its constant tract, as the Motions of the Heavenly Bodies, yet the Meteors, as the Winds, Rain, Snow, Thunder, Exhalations, and the like, which are in themselves more unstable, and less mancipated to stated and regular motions, are oftentimes employed in the World to very various ends, and in very various methods of the special Divine Providence.

And hence the Winds and Storms are stiled in a peculiar manner, *winds and storms fulfilling his will*, *Psal.* 148. And, *He bringeth his winds out of his treasury*, *Psal.* 134. And again, *Hath the rain a Father, and who begot the drops of dew?* *Job* 38. 28. And again, *Can any of the vanities of the Gentiles*

Gentiles give rain? Jer. 14. 22. Thus the wise God, who doth nothing vainly or unnecessarily, nor infringeth the more constant Laws of Nature, when those parts thereof that are more anomalous, and more easily applicable to his imperate acts and ends of Providence may serve, more ordinarily chuseth those parts of Nature to execute his special Providences, that may do it without any great fracture of the more stable and fixed parts of Nature, or the infringement of the Laws thereof.

Again, as the Empire of the Divine Will doth exercise its imperate acts in the Methods of special Providence upon things simply in themselves natural, so it doth upon Agents or Natures intellectual and free: Sometimes immediately by Himself, sometimes by the Instrumentality of Angels or proposed Objects.

This Exercise of the imperate Acts of the Divine Providence may be upon the Understanding or Will.

Upon the Understanding principally these ways, 1. By *immediate afflatus*, or impression, as anciently was usual in prophetick Inspirations. 2. By conviction of some Truths, and this may be either by a strong and over-bearing presenting of them to the Understanding with that light and evidence, that it is under a kind of necessity of believing them, which was often seen in the primitive times of Christianity, wherein God was pleased many times irresistibly, and by immediate overpowering the Understanding by the powerful impression of the Object or Truth propounded, to conquer as it were the Understanding into an assent. Or, 2. By advancing and enlightning the understanding Faculty with a super-added light and perception, whereby it was enabled to discern the truth of things delivered: For as the Understanding receives some Truths proposed by reason of the congruity between the Faculty and the Object, as the Eye sees some visible Objects by reason of the congruity between it and them; so the reason why it perceives not all Objects of Truth is because of some defect of the Faculty, whereby it holds not a full and perfect congruity with them, either by reason of the remoteness or sublimity of the Object, or some deficiency of light in the Faculty, which is aided by the *Collyrium* of the Divine Assistance, Rev. 2. Or else, 3. By some extraordinary concomitant moral evidence; such was that of the Miracles of our Saviour and his Apostles, the Seals and Credentials of the Truths they delivered: And as thus the imperate acts of the Divine special Providence are exercised upon the Understanding, so they are exercised upon the Will, and that either immediately or mediately.

Immediately, 1. By an immediate determining of the Will: For although the Will be naturally free, yet it is naturally and essentially subject to the *imperium divinae voluntatis*, when He is pleased to exercise that empire upon it: This although he rarely doth, yet he may do it, and sometimes doth it irresistibly, determining the Will to chuse this or that good, and yet this without any such force or violence as is simply contrary to the nature of it; because as there is no Power in the World but owes most naturally an obediencial subjection to the Lord of Nature, so even the Will it self is naturally and essentially subject to the determination of the Lord and Author of it. 2. By immediate inclining and inflecting it to determin of it self: This is that secret striving of the Spirit of God with the Will, inflecting and perswading it to this or that good: It differs from the

the former way because that it is irresistible, this though potent yet in its own nature resistible by the Will of Man, though it many times prevails by its efficacy. *V. Gen. 6. 3. Eph. 4. 30.*

Again, 2. Sometimes it is done Mediatly *more humano*, and yet not without the mediate special Empire and Regiment of the Divine Will: and thus it is done two ways, *viz.* 1. By an irresistible, or at least powerful conviction of the Understanding that the thing in proposal is fit and necessary to be done or omitted; for although some think that the Will hath a power of choosing or refusing or suspending, notwithstanding the final decision of the practical Understanding, yet certain we are that ordinarily and when the Will acts as a Rational faculty, it is or ought to be determined by the last decision of the practical Understanding; and 2. By proposing Moral objects that do *more humano* guide the Will to determine it self accordingly; and these are various, sometimes Intervention, Perswasion, or Examples of others, and sometimes even the junctures of Natural occurrences. For, as I shall have occasion to shew, and is partly touched before, even the Natural occurrences of things are under the guidance and conduct of the Divine Providence, even when to us they seem to be either Accidental, or to be the meer product of Natural Causes.

And surely if we should deny the intervention of Imperate Acts of Divine Providence in relation to actions Natural or Moral that appear in the World, we should exclude his Regiment of the World in a great measure; and chain up all things to a fatal necessity of Second Causes, and allow at most to the glorious God a bare prospect or prescience of things that are or shall be done, without any other Regency of things but meerly according to the instituted nature and operations of things. And thus far of the Imperate Acts of the Divine Providence. Only this farther I must subjoyn as a certain truth, That neither the Empire of the Divine Providence, or his mediate or immediate determinations, perswasions or inflexions of the Understanding or Will of Rational Creatures doth either naturally, morally, or intentionally deceive the Understanding, or pervert the Will, or necessitate or incline either to any falshood or moral evil.

3. The third Analogy that is between the regiment of the Soul over the Body and the Divine regiment of the Universe, is in relation to the acts of general Providence, or that ordinary Law wherein Almighty God governs ordinarily the Universe and the things in it, without the particular mixture of those that I have called the Imperate Acts of special Providence, which seems to consist of two parts: 1. The institution of certain common Laws or Rules for all created Beings, which (without a special intervention of his Will to alter or change) they should regularly observe; as that the Heavenly Bodies should have such Motions and Influences, that the Inferiour or Elementary World should have its several Mixtures and Transmutations by the application of the active principles and particles in it to Passives, and by the virtue of the Heavenly Motions and Influences: That there should be vicissitudes of generations and corruptions; that Vegetables should have the operation of vital vegetation, increase, duration and productions according to their several kinds; that Sensible Natures should enjoy a life of Sense, and those several powers

powers or faculties of Sensation, Phantasie, Memory, Appetition, Digestion, Local Motion, Generation, and those several instincts whereby they should be managed and governed according to the conveniencies of a sensitive nature: That the Rational Nature should have those Faculties of a Sensitive Nature, and superadded to it the Faculties of Intellect, Reason and Will, whereby it might govern it self as a reasonable free Agent, and determine it self to this or that action. And these are the instituted Laws of the Divine common Providence.

2. A continued influx of the Divine Goodness, whereby things are upheld and continued in their state of being according to this Law of their Creation: And by virtue of both these acts of common divine Providence all things are enabled to act and operate according to the Laws of their being, without the necessity of any new individual concurrent act of special Providence producing, directing, or determining their several operations. And hence it is that the Will of man by the instituted Law of his Creation, and the common Influence of the Divine goodness and power is enabled to act as a reasonable Creature, to determine it self, and to govern its proper actions according to the Law of his Creation, without any particular, specifying, concurrent, new imperate act of the Divine special Providence to every particular determination of his Will: Even as the continued influx of the reasonable Soul enables those Faculties which we call Natural or Involuntary, without new deliberation, purpose or counsel to every new act thereof: And by this means the World is in an ordinary course of Providence governed according to those standing fixed Laws given to the Universe and the several parts thereof by the Divine Will, wherein it is supported by the common influx and presence of the Divine power and goodness.

And this is that which being duly considered extricath that Question which hath so much troubled the World, concerning the sinful acts of men, and how far forth the glorious God is at all concerned in them. Certainly the imperate acts of his Blessed Will have nothing to do to enforce or necessitate the Will of man to any sin, it is far from the purity of his Glorious Nature: But the general Law of his Providence is only thus far concerned in it, That he hath made Man an intelligent and free Agent, put him into the power of his own Will, but yet *sub graviore imperio*, to restrain its actings, if he please, by his special Providence; and Man in this state of his liberty, when he doth sin, sins from the Empire of his own Will, and not from a determination of the Divine Regiment.

But though the contemplation of the regiment of the Soul over the Body hath given some analogical explication of the Divine Providence in the Government of the World, yet as this Analogy is but imperfect, the Divine Regiment of the World is infinitely more wise, more powerful, more perfect than the regiment of the Soul over the Body, so in many things this Analogy by no means holds: For instance, The Soul doth what it doth in the Body, though by a kind of efficiency, yet it is but a subordinate efficient, and vicarious and instrumental in the hands of the Almighty; who as it hath endued the Soul with this energy, so the Soul is but his substitute in this regiment of the Body; but Almighty God is the supreme Rector of the World, and of all those subordinate provinces

provinces and parts thereof: Secondly, in the imperate acts of the Souls regency of the Body and the *Compositum*: She cannot in the Body work immediately without the instrumentality of the intermediate animal and vital Spirits: But in the imperate acts of the special Divine Providence though we may justly think he doth most ordinarily use the ministry of those noble natures called Angels, yet he may and oftentimes doth by the immediate *Fiat* of his own Will exercise these imperate acts of special Providence, for his Power is infinite; and all Beings are in an immediate obedience and subjection to it.

3. The Soul cannot by its own Will exercise any immediate imperate act upon those natural and involuntary operations which yet are exercised by an influx from it; indeed it may starve and destroy the Body by its Empire, and thereby consequently impede and determine those natural and involuntary operations, yet it cannot by its Intention or Empire prohibit or suspend their exercise, the natural means being allowed and present; it cannot effectually prohibit the Heart not to move, or the Blood not to circulate, or the Ventricle not to digest: But it is otherwise with the Regent and regiment of the World, even those things wherein he hath set a fixed Law, which by virtue of the common influence of the Divine Power and Goodness they observe and follow, are subject to the Empire of his special Providence and the imperate acts thereof. And this is evident in that Administration of special Providence which is miraculous, he commanded the Fire not to burn, stopped the mouths and appetites of Lions, and prohibited the natural operation and agency of Natural Causes. 2. In all the special Providences that are exercised in the World, though they do not visibly appear to us to be miraculous, yet they most certainly are governed by the *imperium* of special Divine Providence, whereby it sometimes excites second Causes to production of Effects which being thus excited they naturally produce; sometimes impeding them, sometimes diverting them, sometimes directing them, sometimes by contemperation, or uniting other more active or contrary Causes allaying or enforcing them: and although it may be the interposition of the Divine *imperium* or special Providence be not immediately the immediate antecedent Cause, but it may be the third, the fourth, the tenth, the twentieth Cause distant from the Effect. Nay though possibly the conjunction of the immediate *imperium Providentie* be with the First Mover in Nature, the Heavenly, Æthereal, or Fiery Influx, yet the regiment of the Divine Providence is as full and infallible in relation to the imperate regiment of the Effect, as if it were immediately joyned to the designed Effect: So that the Moral of that Poetical fiction, that the uppermost Link of all the *series* of subordinate Causes is fastned to *Jupiter's* Chair, signifies a useful truth; Almighty God doth as powerfully govern and direct when he pleaseth, and how he pleaseth, all subordinate Causes and Effects, as the Soul governs the motion of the Muscle or Limb by those strings of the Nerve which are rooted in the Brain.

4. Again, the regiment of the Soul over the Body is the regiment of the more active part over the more passive, though both making one *Compositum*; but the regiment of Almighty God over the World is not as a part of it, or as a Form or Soul informing it, but as a Rector or Governour, distinct, separate, and essentially differing from it, his regiment

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of the World in this respect not so much resembling the regiment of the Soul over the Body, which together with it make one compounded Nature; as the regiment of the Master or Rector over the Ship, or the regiment of a King over his Subjects.

And thus I have gone through the Speculative consideration of the Divine Providence resulting from the contemplation of a Souls regiment of the Body, wherein I have been the longer, because the contemplation of the Divine Providence is a Subject that delights me, and I am contented to dwell upon it as much as I may, and to take up this or any the like occasion to lead me to the contemplation of it.

And thus far touching the Usefulness of the Contemplation of the Humane Nature, in relation to truths Speculative.

II. The Usefulness of it in relation to matters Practical, wherein I shall be shorter. This Contemplation hath these useful Advantages, namely, 1. *Physical*; 2. *Moral*; 3. *Theological* or *Divine*.

1. For *Physical*, by which I mean that practical part of Physical knowledge that is called Medicinal. The due consideration and knowledge of the structure, fabrick and parts of the Humane Body is necessarily conducive to that excellent Faculty for the preservation of life and health, no one thing being more conducive to the advance and perfection of that Science or Faculty than the knowledge of the Humane Body, wherein the Experience of Anatomy and dissection, and the Observations of the ancient and modern Physicians hath given a large evidence and testimony.

2. The *Moral* Practical consequences deducible from the knowledge of the Humane nature are many and useful. For instance, when I consider the admirable Frame of the Humane Nature, made by the Wisdom, and according to the Image of the Glorious God, 1. How careful should it make me that I do not injure that goodly Structure in others, by offering violence to the life of another, or to corrupt him either by evil example or evil counsels? 2. How careful should it make me in relation to my self, not to embase that excellent Frame either of my Body or Soul, or both, into the image of a Brute by sensuality, luxury, or intemperance; or into the image of a Devil, by malice, envy, or irreligion? How careful should it make me to improve and ennoble those excellent and comprehensive faculties of my Understanding and Will with such Objects as are worthy to be known and desired? The intellectual Faculty is a goodly field, capable of great improvement, and it is the worst husbandry in the world to sow it with trifles or impertinencies, or to let it lye fallow without any seed at all.

3. The *Theological* uses that arise from the knowledge of our selves are great and many. When I consider the admirable Frame of my Body, made up in that elegant, stately, and useful composure; and when I consider the usefulness, amplitude, and nobleness of my Faculties, an Understanding capable of the knowledge of all things necessary for me to know, accommodate and fitted to the perception and intellection (though not to the full comprehension) of a World full of variety and excellency; of a God full of all conceivable perfection and goodness; a Memory able to retain the notions of what I understand; a Will endued with freedom, whereby I am a subordinate Lord of all my actions, and endued with a con-

connatural propension and appetite unto rational good ; Reason and Conscience to guide and direct me in all the enquiries and actions of my life ; and besides all this, a Soul , the stock and root of all those Faculties , endued with immortality, and capable of everlasting blessedness : When I consider that this Soul of mine is not only endued with faculties admirably fitted to the life of Sense which I enjoy in this World , but find in it certain secret connatural rudiments of goodness and virtue , and a connatural desire and endeavour after a state of immortal happiness. And when I consider that this Frame both of Body and Soul had its primitive origination immediately from the great Creator of all things ; and although my own immediate origination was from my Parents , yet that very productive virtue was implanted in the primitive Nature by Almighty God , and the derivation of the same specific Nature to me was by virtue of his original Institution and Benediction , and by virtue thereof that excellency and perfection of Humane Nature in its essential which was first formed by the glorious God, is handed over to me, abating only those decays which Sin brought into my nature : I say, when I deeply and intimately consider these things, I cannot but be sensible that that Being from whom I thus derive this being , and such a being, is a most wise, powerful and bountiful Being , that could thus frame the Humane Nature , and thus freely bestow and confer this constitution upon me. 2. And upon this sense of his Wisdom , Power and Goodness, I must needs entertain it with all imaginable admiration of it , and with all possible gratitude, for so great and so free a gift. 3. And consequently I cannot choose but exercise the choicest affections I have towards him, of reverence and fear of his Greatness and Majesty, of dependance and rest upon his Power and Goodness, of love to the excellency of his Essential Perfection and Communicative Goodness and Beneficence. 4. And consequently of entire subjection unto him that upon all the rights imaginable hath the most just sovereignty over me. 5. And consequently of all due inquisitiveness what is the Will and good pleasure of that God that I owe so much gratitude, love and subjection to, that I may serve and please him. 6. A resolved, entire, hearty obedience of that Will of his in all things ; thereby to testify to him my love, gratitude, and subjection. 7. An external manifestation to Men and Angels of that internal love and gratitude I owe him by continual praise and thanksgiving to him, invocation of him, reverence of him, and all those acts of Religion, Duty and Obedience which are the natural Proceed of that internal frame of my Soul towards him. 8. A constant desire of my Soul to enjoy as much of this bountiful glorious blessed Being , as it is possible for my nature to be capable of. 9. And because my estate and condition in this life is but a state of mortality, and a temporal life ; an earnest endeavour to have my everlasting Soul fitted and qualified to be an everlasting partaker of his presence and goodness in a state of nearer union to him and fruition of him, in that future life of glory and immortality. 10. And consequently abundance of circumspection, care and vigilance that I so behave my self in this state of probation here , that I neither lose his favour from whom I expect this happiness, nor render my self unworthy, unfit, or incapable to enjoy it.

And thus this deep, serious, and comprehensive Consideration of our

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selves and the Humane Nature in its just latitude, doth not run out barely into Notions and Speculations, but is operative and practical; teacheth a man Virtue and Goodness and Religion and Piety, as well as Knowledge, and is operative to make a man such as it teacheth him to be; perfects his nature, enricheth it with practical as well as speculative habits, and fits and moulds and accommodates a man to a conformity to the End of his being.

And these be the Reasons that have especially put me upon the search and enquiry into this Subject, M A N.

I am not without excellent helps and patterns in this Inquiry, nor without the due fruits and effects that it hath had upon the Minds of them that have been exercised in it.

Galen, though he spoke darkly and doubtfully of the Soul, being destitute of much of that light which we now have, yet upon the bare contemplation of the structure of the Body and the parts thereof, in that excellent Book of his *De Usu Partium*, resolves the whole Oeconomy thereof into the Power, Wisdom, Goodness, and Efficiency of the Glorious God; and is transported both with the admiration of the Divine Wisdom appearing therein, and with indignation against the perverseness and stupidity of *Epicurus* and his disciples, which would attribute this one *Phenomenon* to Chance.

And had he, or should any else apply himself to the search of that Intellectual Principle in Man, his Soul, he will find a greater evidence of the Divine Wisdom, Goodness and Power, as will easily appear in a little consideration thereof.

C A P. II.

Touching the Excellency of the Humane Nature in general.

ALthough I intend a more distinct Consideration of the Humane Nature, and the Faculties of the Humane Soul, and the Parts of the Humane Body, yet it may be necessary before we come to the discussion of the origination of Mankind, to premise something concerning the Nature of Mankind, and its preheminance and excellence above all other sublunary Creatures, that we may have a little tast touching that Being whose origination we inquire. This Consideration will be of use to us in the enquiry touching the origination of Man; to evidence, that neither Chance nor sord or inanimate Nature could be the Efficient of such a Being, but a most Wise, Powerful, and Excellent Author thereof.

I shall not at large discuss those Faculties and Organs which he hath in common with Vegetables and Brutes, but those only that belong to him specifically as Man, and those also but briefly.

The Corporeal Beings of this lower World are divided into these two ranks or kinds; such as are Inanimate or not living, and such as are Animate or living.

Life, according to *Aristotle* in 1. *De Anima*, cap. 1. is described by its effects,

effects, viz. *Nutritio, & auctio, & diminutio quæ per seipsum fit*; and the lowest rank of such things as have life are Vegetables: for though Minerals have a kind of analogical nutrition and augmentation, yet it is such as ordinarily *non fit per seipsa*, but rather by accession and digestion from external Principles and coagmentation.

The Principle from whence this Life flows in all Corporeal Natures that have it, is that which they call *Anima*, or at least *vis Animastica*. The Faculties or Operations of this *Anima vegetabilis* are these; 1. *Attractio alimenti*: 2. *Fermentatio & assimilatio nutrimenti sic attracti in succum sibi congenerem*: 3. *Digestio, vel dispersio alimenti sic assimilati in diversas partes individui vegetabilis*: 4. *Augmentatio individui vegetabilis, ex unione & consolidatione succi vegetabilis diversis partibus individui*: 5. *Conformatio hujusmodi particularum unitarum specifica natura ejusdem individui cujus est augmentatio; ut in trunco, ramis, cortice, fibris, foliis, fructu, &c.* 6. *Seminificatio & propagatio ex semine vel partibus seminalibus*. 1. Attraction of aliment: 2. Fermentation and assimilation of the nourishment so attracted, into a juice of the same kind with it self: 3. Digestion, or dispersion of the aliment so assimilated into the divers parts of the vegetable individual: 4. Augmentation of the vegetable individual, from the union and consolidation of the vegetable juice to the divers parts of the individual: 5. The conformation of these united particles, to the specifical nature of the same Individual, which is augmentation, as in the trunk of a Tree, the bark, fibres, leaves, and fruit: 6. Seminification and propagation from the seed or seminal parts. These seem to be the process of the Vegetable Nature, Soul, and Life.

2. The next rank of living Creatures is that which hath not only a vegetable life, and a vegetable principle of life, but hath also superadded a life of sense, and a sensitive Soul or Principle of that life of Sense, which nevertheless as one specifical Principle exerts the acts as well of the vegetable as sensitive life.

And this nature 1. Includes all those powers and faculties of the Vegetable Nature, as Attraction, Assimilation, Digestion, Augmentation, Conformation, and Propagation or Seminification.

2. It includes them in a far more curious, elegant, and perfect manner; at least in the more perfect Animals. As for instance, the first assimilation of the attracted nourishment in Vegetables converts it into a watry humor or juice; but the assimilation thereof in Animals rectifies this alimential juice into Chyle, and then into Blood: The propagation of Vegetables is without distinction of Sexes, but that of Animals usually with distinction of Sexes; and many more such advances hath the animal nature above the vegetable in those faculties or operations which for the main are common to both.

3. It superadds a greater and higher perfection to the animal nature, by communicating to it certain essential Faculties and Powers that the vegetable nature hath not: And those are these;

1. Sense. It is true, that *Campanella* in his Book *De Sensu rerum*, and some others that have written *de Perceptione substantiæ*, attribute a kind of Sense to all created Beings, and therefore much more to those that have a vegetable life: And in some Vegetables we see something that carries a kind of analogy to Sense; they contract their leaves against the cold, they

they open them to the favourable heat ; they provide reguments for themselves and their feeds against the injury of the weather , as their *cortices*, shells , and membranes ; they seem to be carried with a complacency in the propagation of their kinds as well as Brutes , and therefore many of them being impeded therein , they germinate again , though later in the year : And some Plants seem to have the sense of Touch , as in the Sensitive Plant and some others ; which seems to be an advance of the Vegetable Nature to the very confines , or a kind of contiguity to the lowest degree of those Animals that are reckoned in the rank of Sensibles.

But this notwithstanding we deny a real and true sense to Vegetables ; indeed , they have a kind of *umbra Sensus* , a shadow of Sense , as we shall hereafter observe , that Sensibles have a kind of *umbra Rationis* , a shadow of Reason , but it is only a shadow thereof. 2. There are also in their natures by the wise God of Nature implanted even in their vegetable natures certain passive Strictures or Signatures of that Wisdom which hath made and ordered all things with the highest reason , even the least inconsiderable Herb ; and these Signatures are bound to their natures by certain connatural instincts planted in them ; but still they want the active principle of Sense in them.

Now this Sense or Sensitive Faculty in Animals is of two kinds ; the external Senses , and the internal. The external Senses are five , all which belong to the more perfect Animals ; and that of the Soul to all Animals , *viz.* Seeing , Hearing , Tasting , Smelling , and Touching.

And it is admirable to consider that the great Lord of Nature hath so disposed of sensible Beings , that although (for ought we know) there may be many more impressions or motions of external Bodies that we know not by their communication unto Sense , because we have not Faculties receptive of them. Yet the Faculties of the five Senses are adequate and proportioned to all those impressions of Objects from without that are conducive to the use and well-being of Animals in a sensible station or nature.

The internal Senses are of two kinds , *viz.* 1. Such as concern perception of Objects : 2. Such as concern the motion to them as useful , or from them as noxious.

Those of the first sort have some adumbration of the Rational Nature , as Vegetables have of the Sensible , and they seem to be these ; the Common Sense , the Phantasie , the Estimative Faculty ; and the Memory.

The Common Sense , or *Commune Sensorium* , which receives the several reports of the several Senses by their several Nerves into that common receptacle or seat of this useful office , the Brain ; where it distinguisheth the Objects of the several Sensories.

The Phantasie , that in a way unsearchable unto us , 1. Creates the the Images of the things delivered from the several Senses to the *Commune Sensorium* : 2. Compounds those Images into some things not unlike Propositions , though confusedly and indistinctly : 3. Makes particular applications of them one to another , though still darkly and confusedly , whereby it excites the Appetite either to prosecute their attainment , or fly from them.

The Estimative Faculty , which is indeed no other than the last operation or composition of the Phantasie before-mentioned , whereby it concludes

concludes that this is a sensible good or a sensible evil, that it is attainable or feasible, or not attainable; that though it be good, yet sometimes it is not safe to be attempted by reason of the impendence of a greater sensible evil. This seems to be the dark and confused shadow of the decision of the practical Intellect in Man.

The Memory, which is an impression of the Image of some sensible Object made by the Phantasie, which remains some time after the impression, and by the return of a like Object again is sometimes revived and reinforced: But how this Image is made, where it is imprinted, how conserved, are things we cannot at all attain the knowledge of; they are wonderfull, though common effects of a most wise and stupendious Wisdom and Power that hath thus constituted even the Faculties of the Animal Nature: Only it seems to me that these Images are not made in the Brain it self, as the Pencil of a Painter or Engraver makes the Image in the Table or Metal, but are imprinted in a wonderfull method in the very Soul it self: For it is plain that Sounds and Voices are remembred, and yet no real configurations are possible to be made thereof in the Brain; for what Image can there be of a Sound?

Now as to that Faculty or those Faculties that concern the pursuit or flight of what is thus propounded by the Phantasie or Estimative Faculty, they are generally two: The *Appetitus naturalis*, which bears some analogy to the Will in the Reasonable Nature; and the acts thereof are either prosecution of the Sensible Object propounded, if presented by the Phantasie and Estimative Faculty as good; or else aversation from it, if presented as evil.

This is the Faculty of Empire or Command, for in conformity to the determination of the Appetite the motion of the Body follows.

The other Faculties that concern pursuit or aversation, are the Passions, the *Satellites appetitus*, serving either in the prosecution of the good propounded, as Love, Desire, &c. or in opposition of the evil presented, as Anger, Revenge, &c.

And thus far touching the Senses in Animals, both External and Internal.

2. The second superadded prelation of the sensible nature above the vegetable is the faculty and exercise of animal and local motion, whereas Vegetables have naturally no other motion but that which is determined and natural, and what is within it self; as the motion of Attraction, Digestion, Nourishment, Augmentation and Increase. Animals have the faculty and power of animal motion; which hath these accessions, 1. It is or may be spontaneous; for though the object moves objectively, yet the faculty or power moves *ab intrinseco*, and spontaneously. 2. It moves the parts spontaneously, the Leg, the Eye, the Ear or any other part, which cannot be done by Vegetables. 3. Again, it can move the whole *Compositum* from one *ubi* to another (at least in all Animals except those that are almost in the nature of Plants, called *Zoophyta* or *Plantanimalia*) which cannot be done by Plants, who are mancipated and fixed to the place of their station or growth, unless removed by an extrinsecal agent.

3. The third superadded advantage of Animals is their Instincts. It is true, Vegetables have their instincts radicated in their nature, as we have

have before observed; yea even things Inanimate have certain simple instincts, as in the motions of ascent of light bodies, and descent of heavy bodies: But the instincts of Animals are sensible instincts of a more noble kind and nature than those of Vegetables, and such as seem to favour more of an active principle; as sagacity of Brutes in taking their prey, defending themselves, providing against the inclemency of the weather, care for their young, building their nests, and infinite more, which are too long to name.

These are the superadded Faculties of the Animal Nature; and proportionate and accommodate to their faculties are their organizations of their Bodies. And in as much as there is great varieties in the temperaments, dispositions, faculties and uses of several Animals of several kinds, their organizations are not only fitted to the common natures, uses and powers of sensible Creatures, but every several *Species* hath its several accommodation as well of his Organs as of his Faculties to the exigence, use and convenience of his proper specifical nature.

Thus the ranks of the vegetable perfections are not only included within the rank of sensible Beings, but these have greater perfections in what is common to both, and superadditions of other more noble Faculties and Organs not communicable to the former. The Vegetable Nature is indeed like a curious Engin, but it hath but some simple and single motions, like a Watch that gives the hour of the day, or a *Trochea* with one Wheel: But the Animal Nature is like an Engin that hath a greater composition of Wheels, and more variety of motions and appearances, as one of the compound Engins of *Archimedes*, or as a Watch, that besides the hour of the day gives the day of the month, the age of the Moon, the place of the Sun in the Zodiack, and other curious Motions wrought by multiplication of Wheels.

Now touching the Sensitive Natures, there have been two extreme opinions, both of them extremely contrary one to another, and yet both of them, as they are delivered by their Authors, untrue.

1. That Opinion that depressoeth the natures of sensible Creatures below their just value and estimate, rendring them no more but barely Mechanisms or Artificial Engins; such as were *Archytas* his Dove, *Regiomontanus* his wooden Eagle, or *Walchius* his iron Spider: that they have no vital Principle of all their various Motions but the meer modifications of Matter, or at least the elementary Fire mingled with their other Matter; that they have no other form or internal principle of Life, Motion, or Sense but that which is relative and results from the disposition, texture, organization and composition of their several Limbs, Members or Organs: This fancy began by *Des Cartes* in his *Fundamenta Physica*, and hath been followed and improved by some of his admirers, and particularly much favoured by *Honoratus Faber* in his Book *De Generatione Animalium*; and herein they think they have given a fair solution to all the *Phænomena* of the Sensitive Nature, and given a fair prelation to the Soul of Man, which they agree to be a substantial Principle of humane actions: But in both these they have been disappointed, for this supposition as it gives not at all a tolerable explication of the *Phænomena* of sense and animal motions, so if it did, it would easily administer to a little more confidence and boldness, a temptation to resolve all the Motions of the reasonable Soul into the

the like supposition, only by advancing the Engin or *Automaton humanum* into a more curious and complicated constitution: For he that can once suppose that the various modifications of Matter and Motion, and the due organization of the Bodies of Brutes can produce the admirable operations of Sense, Phantasie, Memory, Appetite, and all those instincts which we find in Brutes, is in a fair way of resolving the operation of the Reasonable Nature into the like supposition, only by supposing the organization of the latter somewhat more curiously and exactly disposed and ordered as much above that of Brutes, as theirs is above that of Vegetables. It is true, the organization of the humane and animal Body, with accommodation to their several functions and offices, is certainly fitted with the most curious and exact Mechanism imaginable; as appears by the structure of the Heart, the Lungs, the Brain, the Tongue, the Hand, the Nerves, the Muscles and all other parts, and the several orders and methods of their motions and adaptations to their several offices, and the exercise by them of those Faculties to whose service they are consigned: This must needs be acknowledged by every man that observes them, or that takes the pains to read the Tracts of those that have written of them; and especially *Galen* his divine Book *De Usu Partium*, *Des Cartes* and *Fabritius* concerning the structure of the Eye, the same *Fabritius* and *Steno* *De motu Musculorum*, and divers others.

But that the Principle that sets on work these Organs, and worketh by them, is nothing else but the modification of Matter, or the natural motion thereof thus or thus posited or disposed, or the bare conformation of the Organs, or the inclusion and expansion of any natural inanimate particles of elementary Fire, is most apparently false, even to the view of any that observes or considers impartially.

It is impossible to resolve Perception, Phantasie, Memory, the sagacities and instincts of Brutes, the spontaneousness of many of their animal motions into those Principles, nor are they explicable without supposing some active determinate power, force, or virtue connexed to, and inherent in their Spirits or more subtil parts, of a higher extraction than the bare natural modification or texture of Matter, or disposition of Organs, or, as they are often pleased to stile them, their *plexus partium*.

Again, it is visible to the Eye, that that power, or virtue, or principle, whatever it is, that in the generative process first immediately formeth and organizeth the parts of the Body, is that which guides, orders and governs all the animal motions of it after: That power which first forms the Brain, the Heart, the Liver, the Eye, is that which afterward increaseth, augmenteth, exerciseth and employeth them after: And no man living can force himself to imagin that that Principle which forms, organizeth, disposeth, and modifieth the parts, is any thing that results from the organization or modification of those parts which are not yet moulded or framed, but must have its modification from that Principle which is antecedent to any manner of organization or texture of parts into an animal composition: No man therefore that hath not abjured his Reason, and sworn allegiance to a preconceived fantastical *Hypothesis*, can undertake the defence of such a supposition, if he have but the patience impartially to consider and look about him.

2. The other extreme Opinion seems to advance the Animal Nature

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too high, at least without a due allay of their general expreffion ; namely, those who attribute Reason and a reasoning faculty or power to Animals as well as to Men, though not altogether in the same degree of perfection : so that they will not have Reason to be the specifical or constitutive difference of the Humane Nature, but common to them and Brutes : This Opinion seems generally to be favoured by the *Pythagoreans*, that held Transmigration of Souls ; by *Plutarch*, in *Grillo*, and his second Oration *De Esu Carnium* ; by *Sextus Empiricus*, *Contra Mathematicos* ; by *Porphry*, *Lib. 3. de Abſtinentia ab Esu Animalium* ; which he endeavours to prove and illustrate by divers reasons and instances ; and among the latter by *Patricius* in his fifth Book *de Animis irrationalibus* ; but above all by the ingenious and learned *De Chambre* in his Book of the Knowledge of Beasts, wherein he asserts not only the simple apprehension of Beasts by phantasms or images wrought by the Phantasie, but the conjunction of images with affirmations and negations, which make up Propositions, and the conjunction of Propositions one to another, and illation of Conclusions upon them, which is Ratiocination or Discourse : And that in farther evidence thereof there is a certain kind of Language whereby Beasts or Birds, especially of the same *Species*, communicate their conceptions one to another ; only this discursive Ratiocination of Brutes he calls *Ratio imaginativa*, and differenceth it from *Ratio intellectualis* which belongs properly to Men, principally in this, That the imaginative or brutal Ratiocination keeps still in particulars, and within the verge of particular propositions and conclusions ; but intellectual Reason hath to do with universals, and for the most part grounds and directs its Ratiocination by them.

Touching the thing called Reason, we must consider that it hath a double acceptation : 1. It is taken for every conduct of any thing by fitting means to fitting ends, or the due and convenient ordering and adapting of one thing to another ; and this again seems to be of three kinds, *viz.* Active, Passive, or Mixt : 1. That I call Active Reason which from an inward intellectual principle orders and disposeth, as the Watch-maker contrives, orders, and disposeth the several parts of the Watch, so that it excites a regular and useful motion : 2. The Passive Reason (which is more properly Reasonableness) is that order and congruity which is impressed upon the thing thus wrought ; as in the Watch I see every thing moves duly and orderly, and the reason of the motion of the Ballance is by the motion of the next Wheel, and that by the motion of the next, and that by the motion of the Fusee, and that by the motion of the Spring ; the whole frame, order and contexture of the Watch carries a reasonableness in it, the passive impression of the Reason or intellectual *Idea* that was in the Artift : 3. The Mixt sort of Reason seems to be when a thing concurs actively and from an internal principle, and (in things that have life) vitally, to the production of a reasonable effect ; but yet *per modum instrumenti*, and in the virtue of a superiour direction of a reasonable agent : Thus when I plow my ground, my Horse is harnessed and chained to my Plough, and put in his track or furrow, and guided by my Whip and my Tongue, and so draws on my Plough, and this reasonable work is performed actively and vitally by my Brute in the virtue of my direction. And certainly this kind of latter Reason

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is evident not only in the brute Beasts in their instincts and operations, but also in Vegetables, and almost in all things in Nature; for they are all indued with a certain inherent activity, which is nevertheless implanted, directed, ordered and determined by the great Creator in the Laws of their several constitutions: The process of nutrition and generation not only in Animals but even in Vegetables is done with the highest Reason, exceeding the imitation of the Humane Reason; the Birds making their Nests, ordering their Eggs and moving them in incubation, feeding and disciplining their young, is done with the most exquisite reason and congruity thereunto, beyond the artifice of the most ingenious man. And it must needs be so; for though they concur actively from an internal Principle to the production of the effect, yet they are determined therein and thereunto, and their track ordered for them and to them by the Laws of their nature instituted and imprinted on them by the unimitable Wisdom of the highest intellectual Being. This mixed or instrumental Reason, as I may call it, therefore all must agree to belong not only to Brutes, but almost to all things in Nature, and herein differs from Reason or Reasonableness which I before call simply passive, in that it immediately proceeds from the internal active Principles implanted by God in their natures.

2. But there is another kind of Reason which we call Ratiocination, or *Discursus rationalis*, which consists principally in these three things, though the two former without the latter make not up a compleat Ratiocination: 1. The simple apprehension of things themselves, which is done by images or representations thereof, made either by the Intellect, or by the representations made thereunto by the Phantasie: 2. The compounding of the images or representation of things with an affirmation or negation; this makes a Proposition: 3. The composition of several Propositions among themselves, and drawing from them Conclusions; and this is called *Syllogismus*, Ratiocination or Discourse.

But though this be the *analysis* of Ratiocination into which by a careful attention it may be resolved, we are not to think all sort of reasoning or ratiocination, even in Men themselves, is presently by way of explicit or formed Syllogisms, or artificial Moods and Figure. Some consecutions are so intimately and evidently connexed to or found in the premisses, that the conclusion is attained *quasi per saltum*, and without any thing of ratiocinative process, and as the Eye sees his object immediately and without any previous discourse; so in objects intellectual many evident truths or principles are *primo intuitu* assented unto: as in objects of Sense the action is elicited *per saltum*; as many times when a Horse is hungry and comes to a good pasture, he falls to his food immediately without forming Mr. *Chambre's* Syllogism,

*This green is grass,
This grass is good to eat,
Therefore this green is good to eat.*

But the *transitus* from the Sense to the Phantasie, and from that to the Appetite, and from that to the motion of Eating is immediate, momentaneous, and *per saltum*.

In brief, as the vegetable nature, as hath been observed, hath a kind of shadow of the sensible nature, so the sensitive nature hath a kind of shadow of the truly rational nature; their Reason is but a low, obscure and imperfect shadow thereof, as the Water-gall is of the Rain-bow; and proportionable to their imaginative Reason is their animal Language, which though it be a kind of natural sign of their Imagination and Passions, yet it is infinitely below the perfection of humane Language: For we see that those Birds who by reason of the analogy of their organs by use are taught some words or sentences, yet they never proportion those words to an explication of any distinct conception signified by them, nor can use or apply those words they learn to the things they signify, nor can they connex their words or sentences in coherence with the matter which they signify; and commonly have recourse to their wild natural notes when they would express their imaginations or passions, which notes are at the best but like natural interjections, framed by Nature, not by Art, to discover their passions or impressions; and their artificial language or notes are no other than impressions upon their sensitive Memory by iterated use, and drawn out from them upon the strength of such impression, or by repetition of Objects that excite that Memory.

Thus much I thought good to premise concerning the vegetable and sensitive natures, which may be of some use in the consideration of the rational or humane nature; partly to instance what this latter includes, namely the whole perfection of the vegetable and animal faculties, and partly to discover the preference that the Humane Nature hath above the Animal Life in these most perfect faculties of Intellect, intellectual Reason, and Will.

I shall not here distinctly and fully examine the nature of Man in the whole compass and extent thereof, but shall reserve it to a fuller inquiry; I shall only instance in so much thereof in this place as may be apposite to my purpose, namely, to shew that he is a Creature of most admirable constitution, and such as deserves our inquiry, and such whose first composition and origination requires a higher and nobler Constituent than either Chance or the ordinary method of meer Natural causes and concurrences; and that it is such a piece as in its first constitution and ordination requires an Efficient of infinite Power, Wisdom and Goodness: This is the end and scope of my present Inquiry.

Now to give a brief Inventory of the Excellence of the Humane Nature, I shall observe as near as I can this order.

First, I will briefly consider those Excellencies that he hath in common with the vegetable and sensible nature: Secondly, I shall consider those specifical or appropriate Excellencies that he hath above the former, both vegetable and animal nature.

Under the Second general I shall consider Man singly with relation to himself, and then with relation to other things without him.

In relation to himself I shall briefly consider these particulars: 1. The excellency of his Soul or intellectual nature in its nature, faculties, acts and habits; 2. The peculiar excellency of his Body; 3. The peculiar excellency of the *Compositum*, consisting of both his former essential parts.

In relation to things without him, I shall consider him with relation 1. To God, 2. To Mankind, 3. To the other integrals of the World; and

and therein 1. Of their serviceableness and accommodation to him; 2. Of his dominion and sovereignty over them, and the means and instruments thereof.

This is the brief Scheme that I intend of those specific and appropriate preeminences that the Nature of Man hath above other visible Creatures

First therefore, touching those Excellencies that the humane Nature hath above the vegetable and animal Nature, I shall subjoin these ensuing Positions.

1. There is no excellent vegetable or animal Faculty in the vegetable or animal Nature, as such, but it is found in the humane Nature; such as are attraction, nutrition, digestion, conformation of parts digested, proportionable augmentation, generation, sensible perception, common sense, estimative faculty, sensible appetite, locomotive faculty, and animal motion: I meddle not herein with all those smaller sort of Faculties, which are peculiarly appropriate to Vegetables or Animals, as swiftmess, sagacity, strength, and special artifices, which belong not to them in the common nature of Vegetables or Animals, but by certain specific Instincts or Faculties, because though it may be some of them are not found in the same kind and degree in the humane Nature, yet they are such as are abundantly recompensed by that art and ingeny which appropriately belongs to the humane Nature.

2. There are no Organs in the sensible Nature (which yet are more perfect than those of the vegetable Nature) subservient to the Faculties of Life and Sense, which are wanting in the constitution of the humane Body, at least in substance and equivalence.

3. Those very Faculties and Organs subservient unto them in the vegetable or sensible Nature, which are found in them, are lodged in the humane Nature in far more excellency and perfection than they are in the vegetable or animal Nature: So that if the Faculties or Organs subservient to the vegetable or animal Life in Man, do differ in their state or compofure from those of Brutes, it differs for the better, as obtaining a more exquisite perfection, usefulness, beauty, and contexture, than those of Brutes, as may appear in the Hand of Man compared with the Foot of Beasts or Birds; the Foot, the Leg, the Thigh of Man, with those of Beasts, and the like. It is true, the constitution of some Faculties and Organs of Sensibles, is more accommodate to their fabrick and use than the like Organs of Man would be to the use of Brutes; but simply comparing one with another, the Organs of the humane Body are more curious and excellent than the Organs of the bare animal Nature. And from hence it comes to pass, that the full knowledge of the humane Faculties and Organs, subservient to the animal Life in Man, comprehends in effect all the like Faculties and Organs in the animal Nature, though differing in some particular textures and positions, with a proportionable advance by the access of excellence of the humane Nature.

2. As to the specific or appropriate Excellencies of the humane Nature above the most perfect Animals, they come next to be considered.

It is true, that Animals in proportion to the length of their Life attain their complement of their specific perfection sooner in proportion than the humane Nature: The animal Soul sooner expands and evolves it self
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to its full orb and extent than the humane Soul: Therefore the Horse that lives naturally about thirty years, comes to his full growth and perfect exercise of its animal Faculties in four years; but Man, that lives not ordinarily above seventy years, comes not to the ripeness of his Intellectual Life 'till two and twenty or three and twenty years at least, nor even to his full growth 'till nineteen or twenty: So that what we say concerning Man, in relation to the actings of his Mind, must be applied to that state and age wherein his Soul hath fully as it were evolved itself, and its Organs fully mature and disposed for the actings of his Soul: He is long ripening, but then his maturity, and the complement thereof, recompenseth the slowness of his maturation.

Now the Excellencies appropriate to the humane Nature are, as before, observed of two kinds; 1. such as immediately concern the humane Nature it self; or 2. such as are extrinsecal, but yet relating to it.

Those things that are immediately residing in, or part of the humane Nature, come first to be considered: And they are three: 1. His Soul, or intellectual and volitive Principle. 2. His Body, or corporeal part. 3. The *Compositum* or *Coalitum* of both those Principles, which complete the humane Nature.

The Soul comes first to be considered, and therein these four things: 1. Its Constitution or Nature. 2. Its Original. 3. Its Faculties. 4. Its congenite Habits or rational Instincts.

1. Touching the Constitution of the Intellectual Soul of Man, I shall not in this place enter into a large discourse concerning it, but reserve that consideration to its proper place, only in general it is 1. An active principle; 2. It is a substantial principle; 3. It is not corporeal or material; 4. It is not corruptible or mortal.

2. Touching its Original, whether it be by traduction, or creation, or participation, I shall not here dispute, but reserve it to its proper place for a fuller disquisition. But whether the one way or the other it had its original, there is no inconsistency but that it hath those essential qualifications above-mentioned.

3. Touching its Faculties, they are two, the Understanding and the Will: And here I shall not concern myself in the Inquiry, whether the Faculties are the same with the Soul it self, or the same one with the other, and only distinct in notion? whether the Will be any more than the complete or ultimate act of the Understanding determined? It is sufficient, that the acting of the Soul as it relates to perception and decision, and as it relates to choice and pursuit, or aversion, are distinguishable to us, and those notions serve to explicate what we mean in the things we discourse of, as the supposed Circles in the Heavens serve to explicate the appearances thereof. The Understanding or the Intellectual Faculty (the shadow whereof only is the Phantasie in Brutes, but it is but a shadow of this of Intellect) is a Faculty that not only gradually but essentially differs from and exceeds the perceptive Faculty in Brutes.

Three things there are that give us the best notion we can have of the humane Intellect, and the discrimination thereof from the animal perception and imagination: 1. The Objects thereof: 2. The Acts thereof: And 3. The Habits thereof.

1. The Object of the humane Intellect is *omne intelligibile*, which is of a far

a far larger extent than the Object of sensible perception or imagination, which as it exceeds not the province of sensible Objects, so it is in order to the convenience of a sensible Life. For instance: When a Brute sees a Man, it sees his colour, figure, motion, bulk, and by the advantage of Memory or Instinct it comes to him, or flies from him, as it hath received, or thinks it like to receive good or evil by him, but it perceives not substance. These Objects, among many other that might be instanced, fall under the perception of the Intellective, which seem not to be within the verge of Imagination or sensible perception: 1. The Notion of a Spirit, or substance void of corporeity. 2. Universals, or conception of things as conjoined in one common nature or notion, abstracted from the Individuals thereof. 3. Abstracted conceptions, as entity, corporeity, &c. 4. Though Brutes may be able to apprehend multitude, as things more than singular, yet they cannot have a distinct notion of Number. 5. Though they may have a confused imagination of something as past, or future, yet it is without distinction of Time, or the notion of it. 6. The truth of consequence in or from the antecedent. 7. The actions of the Mind or Imagination it self, by way of reflection or introspection of themselves, are discernible by Man distinctly, but at least not distinctly by Brutes. 8. The truth and evidence of Geometrical Demonstration. 9. The reason or just estimate of connexion of things to their Causes. 10. The moral goodness and congruity, or evilness, unfitness, and unseasonableness of moral or natural actions, which falls not within the verge of a brutal faculty. 11. The Notions of a Deity, and the result thereupon, namely, Religion, is not to be found in Brutes, but seems connatural to the humane Nature, as shall be shewn.

2. The Intellectual Acts, and they are many:

1. Intellectual Perception, which greatly differs from imaginative or sensitive perception, as far above it: For in those things where the root of intellective perception is in the sense and phantasie, the perception intellective oftentimes departs from and corrects the report of the phantasie, as in the apparent bigness of the Sun, the apparent crookedness of the Staff in a double *medium* of Air and Water, though this kind of Intellectual Perception be not without the help of Ratiocination.

2. Intellective Ratiocination, which infinitely exceeds that imaginative Ratiocination which some have attributed to Brutes. 1. It is distinct, and with a distinct knowledge of the terms, which in Brutes is confused. 2. It is founded for the most part in Universals, which is not compatible to imaginative Ratiocination. 3. The thread and train of Consequences in intellective Ratiocination is often long, and chained together by divers Links, which cannot be done in imaginative discourse or ratiocination by some attributed to Brutes, which if the *transitus* from the premisses to the conclusion be not very speedy and short, that imperfect Ratiocination is lost in Brutes.

And here I shall again a little resume the former Consideration touching the imaginary Reasoning of Brutes, which I have before called the Image of Reason, and not truly Reason, for it is not a distinct reasoning, but performed in a physical moment: And though we suppose Subject, and Predicate, and *Copula*, and Propositions, and Syllogistical Connexions

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in their Reasoning, there is no such matter, but the entire business is at the same moment present with them without deducing one thing from another, though we form them into notions of distinct acts; and this acting of the sentient Phantasie is performed, 1. By a presence of sense, as the Horse is under the sense of hunger, and that without any formal Syllogism presseth him to eat: the fire burns the Cats foot, and therefore it pulleth it away because the immediate sense of pain enforceth it. 2. By the presence of Memory; the Dog hath been beaten for taking the meat out of the dish, and the next time he sees it there, though he be hungry yet he dares not venture, for his imaginative Memory makes the past strokes as present to him as if he felt them. 3. By the presence of Instinct, which puts him upon those motions that are most evidently as reasonable as any thing can be, and yet without the intervention of Ratiocination. For instance, Every Creature almost hath certain Instruments for its defence, and the offence of its enemies, exactly fitted for their use, and they have that singular dexterity in using them that the most disciplined Fencer cannot equal: The Cock, for instance, hath his Spurs, and he strikes his Feet inward with singular strength and order, and it is not possible he should use his Spurs with greater reason for his advantage; yet he doth not this by any syllogistical method, or by Ratiocination, but is meerly tutored to it by Instinct, which is present with him, and at hand without any discursive Reasoning. And this appears, because while it is yet a Chick, and hath no Spurs, nor cannot hurt by it, nor yet hath seen the like motion before to imitate or learn it; yet he readily practiseth it. And to these three present impulses of Sense, Memory, and Instinct, most if not all the sagacities of Brutes may be reduced without the help of true Ratiocination or discursive Reason; though witty men by Analytical resolution have Chymically extracted an artificial Logick out of all their actions.

3. Intellectual Memory, which I call an act of the intellectual faculty because it is wrought by it, though I do not inquire how or where, because it is not solvable: The specific preferences that it hath above the sensible Memory are these, 1. That it remembers and retains such things as were never at all in the Sense, as the conceptions, enuntiations and actions of the Intellect and Will; the conviction of truth or falsehood of propositions or reasonings; the conceptions of universals: whereas the sensitive Memory retains nothing but sensible Objects, or their Images wrought by the Phantasie. 2. In that it is more complicated and complex than the sensitive Memory, retaining the *series* of propositions, argumentations, and a long tract of historical narratives. 3. In that it is more distinct and unconfused than the sensitive Memory. 4. In that it is firmer, and more fixed and permanent than the sensitive Memory. 5. In that it can resuscitate and stir up it self to remember and call together other Images or *media* to retrieve what it once remembered; which is Reminiscence, an act of intention, which therefore *Aristotle* in his Book *De Memoria & Reminiscencia* makes an act peculiar to Man; whereas the Memory of Brutes is either conserved by the Images impressed by the Imagination, and there continued, or revived and reinforced by the occurrence of external Objects bearing an identity or resemblance to the Images at first impressed by the Phantasie.

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4. Deliberation ; a staid and attentive consideration of things to be known and their *media*, and of their several weights, conclusiveness, or evidence ; and of things to be done and their *media*, their congruity, suitableness, possibility and convenience, and of the several circumstances aptly conducible thereunto ; which is an act far above the animal actings, which are sudden and transient, and admit not of that attention, *mora*, and propensity of actions.

5. Judgment ; either concerning things to be known, of the weight and conclusency of them and ends in decision ; or of things done or to be done, of their congruity, fitness, rightness, appositness : and this if it refers to things to be done, ends in determination or purpose ; if in relation to things already done, then in sentence of approbation or disapprobation : And hither that which we call Conscience is to be referred, namely, if by a due comparison of things done with the rule, there be a consonancy follows the sentence of Approbation ; if discordant from it, the sentence of Condemnation.

And this act of the Judgment in relation to things to be done, and the determination thereupon, is that which is usually styled the last decision of the practical Understanding immediately antecedent to the decree of the Will, which it must follow by a kind of moral necessity, when it acts as a reasonable Faculty, and in the due state and order of its nature, though by its liberty and empire it sometimes suspends its concurrence. And thus far concerning the Acts of the Understanding.

3. Concerning intellectual Habits or the genuine effects of these acts in the understanding Faculty, and they are divers and diversly expressed by those that have treated thereof.

1. Opinion, when the assent of the Understanding is so far gained by evidence of probability, that it rather inclines to one persuasion than to another, yet not altogether without a mixture of uncertainty or doubting.

2. Science or Knowledge effected by such evidence, *cui non potest subesse falsum* ; as in case of demonstrative evidence.

3. *Fides*, or Faith, or Belief, which rests upon the relation of another that we have no reasonable cause to suspect ; and upon this account we believe Divine Revelation when we are sufficiently convinced that it is Divine Revelation ; we also believe our Senses, because we have the greatest Moral evidence that we can reasonably have of the truth of their reports, when they are not controlled by apparent Reason, impossibility, or improbability : We believe good and credible persons, and this principally refers to matter of fact, which we cannot or do not controul by our Senses or other weighty evidence, as that there was such a man as *Julius Caesar*, that there is such a place as *Rome*, though we never saw the one or the other ; because delivered over to us by credible persons, and such who could probably have no end to deceive us.

4. Wisdom ; which is a complicated habit referring to all things to be known and done, the due comparison of things and actions, and the preference of them according to their various natures and degrees.

5. Prudence ; which is principally in reference to actions to be done, the due means, order, season, method of doing or not doing.

6. Moral Virtues ; as Justice, Temperance, Sobriety, Fortitude, Patience,

Patience, &c. for these begin in the Intellect, though their exercise belong principally to the faculty of the Will.

7. Arts Liberal or Mechanical; for though the exercise of those (in which the formal nature of an Art consists) be external, yet the Ideal notion and habit of them begins in the Understanding; and a man is first a Geometrician in his Brain, before he be such in his Hand.

And all these habits of the intellectual Faculty are far advanced above what is found in Sensible Natures; take the last for instance. It is true, we find a rare dexterity in the Spider and Silkworm in framing of their threads, but this proceeds not from any Intellectual principle in them, but from an Instinct connatural to them, and whereunto they are determined by the Law of their nature; again, we find in the Fox, the Hawk, and other Animals admirable sagacities, wiles and subtilties in getting their prey and in defending themselves: But when we consider the sagacity of the Humane Understanding, although the particular Instincts of some Animals are scarce imitable by it, yet it exceeds them in other things almost of the same nature, and so by way of equivalence, or rather prelation in those very Instincts, witness the Arts of Painting, Tapestry, Fortification, Architecture, the Engines whereby noxious and subtil Animals are subdued, and infinite more arising from the fruitfulness of the Understanding and the dexterity of the Hand. And thus much touching the Intellective Faculty, the seat of intellective Perception and Counsel: I come to consider of that other Faculty, the Will, the seat of Empire and Authority.

The Will therefore is that other great Faculty of the Reasonable Soul, and it is not a bare appetitive power as that of the sensual appetite, but is a rational appetite, and is considerable, 1. In its Nature, 2. In its Object, 3. In its Acts.

1. The Nature of this Faculty is that it is free, *domina suarum actionum*, free from compulsion, and so spontaneous, and free from determination by the particular Object, wherein it differs from the sensitive appetite, which though spontaneous, because moving from an inward principle, yet is, if not altogether, yet for the most part determined in its choice by the external Object. But how far forth the Will is determined by the last act of the practick Understanding, or how far such a determination is, or is not consistent with the essential or natural liberty of the Will, is not seasonable here to dispute. This liberty of Will, together with that other Faculty of Understanding, is that which renders the humane Nature properly capable of a Law, and of the consequence of Law, Rewards and Punishments; which doth not properly belong to the animal Nature, because destitute of these two Faculties.

2. The Object of the Will is not confined to a sensible Good, but is much larger, namely, such a Good as is compatible to an Intellectual Nature in its full latitude, such as are moral and supernatural Good.

3. The Acts of this Faculty are generally divided into Volition, No-lition, and Suspension: That division that herein better suits with my purpose are these, Election and Empire.

1. Election or choice, and this in reference both to means and end; for though the Schools tell us, that *Electio* is only *mediorum & non finis*, this is to be intended of the general end or good at large, and in its uni-
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verſal conception, for when ſeveral particular ends are in propoſal, there is belonging to the Will a power of Election of theſe, as well as of the means to attain them.

2. The *Imperium voluntatis* over the Body and the Faculties: We may obſerve in the humane as well as the animal Body two kinds of motions or exertions of Faculties; ſome are ſtiled natural or involuntary, ſuch is the motion of the Heart, the Circulation of the Blood, the perception of the Senſes; when the Organs are open, and the Object applied, theſe natural, though vital Faculties and Motions, are not under the command of the Will immediately, for whether I will or will not, while I live, my Heart beats, my Blood circulates, my Ventricle digeſts what is in it, my Eye ſees when open. But there be other Motions in the humane, and alſo in the animal Nature, that are ſubject to the command of the Will in Man, and to the appetite in Brutes, as local motion, which in Animals is under the regiment of the Appetite, in Man under the regiment of the Will.

Now this *Imperium voluntatis* may be conſidered in relation,

1. To it ſelf: It can ſuſpend its own acting, either of electing or rejecting.

2. To the Underſtanding: Though it cannot ſuſpend its perception, *omnibus ad percipiendum requiſitis adhibitis*, yet it may ſuſpend its deciſion or determination, or at leaſt its *obſequium* to ſuch deciſion.

3. The Paſſions, which are as it were the *Satellites voluntatis*, and follow the command of the Will, where the Will acts according to its power and authority.

4. To the animal Spirits, and the Veſſels in which they are received when deſigned to Motion, namely the Nerves and Muſcles, theſe are all ſubject to the Empire of the Will, as to Local Motion of the whole Body or any part thereof, when the Spirits, Nerves and Muſcles are in their due and natural ſtate.

5. To the ſenſual Appetite: And indeed herein is evident both the Empire and Sovereignty of the Will, and alſo the viſible diſcrimination between the Humane Nature and the Animal or Brutal Nature, and its preference before it. In the animal Nature it is evident, that the ſenſual Appetite is that which hath and exerciſeth the ſovereignty and dominion over the ſpontaneous actions of the animal Nature, that commands the Foot to go, the Mouth to eat, and all other the ſpontaneous motions in order to a ſenſible good: But in Man the ſenſual Appetite is *Regimen ſub graviore regimine*, the government of the Appetite is under the government of the Will and controlled by it, at leaſt where the reaſonable Faculty is not embroſed and captivated by ill cuſtom or diſorder. And this appears two ways:

1. Sometimes the very motion of the Appetite it ſelf is reſtrained by the Empire of the Will, ſo that a man doth not *appetere* that ſenſible good which otherwiſe he might or would, becauſe he will not; and this is the moſt natural and noble regiment of the Will over the ſenſual Appetite.

2. Though it may fall out that the ſenſual Appetite may *appetere bonum ſenſibile*, yet the Will may and doth controll the empire of the Appetite in the execution of that appetite: As for inſtance, A man ſees delicious

fruit, and he desires it; in so much, that were there not a controll over the empire of his Appetite, it would command the Hand to reach it, and the Mouth to eat it: But the contrary command of the Will supercedes the command of the Appetite; the Appetite desires it, but the Hand is forbidden by the Will to reach it.

Now if any man shall say this contradiction appears, not only in the reasonable Nature, but even in the sensible: The sensible Appetite is checked in its execution oftentimes by sensual Fear, as in Dogs and Horses, and other Brutes, yea sometimes by the remembrance of a former suffering for the like attempt to gratifie his sensual Appetite; and yet they are destitute of any superior faculty of Will to interpose a prohibition upon the Appetite. I answer, this is true, for in such cases the impendent Fear is either present or in memory, and so expected; and it being of a sensible evil, hath the same influence upon the sensual Appetite as the present good; and therefore if the evil feared or impendent be a greater sensible evil than the good, it over-rules the Appetite to averfation; as the Fish that loves the bait, yet feareth the hook, which it discerns as a greater sensible evil, the very Appetite is thereby determined to averfation.

But the controll of the Will upon the Appetite in the reasonable Nature, is many times, and indeed most often done, not upon the account of a sensible evil felt or feared, which of it self were sufficient to determine the Appetite; but sometimes upon the account of such hopes or fears as fall not under a sensitive notice, as of the command or prohibition by God; yea many times upon a bare Moral account of the *indecorum*, unreasonableness, unseasonableness or utter unfitness of the thing it self, without any other motive of fear either of a present or future sensible inconvenience thereby; which Moral consideration can no way move the sensible Appetite, were it not for the Will, which being a rational Faculty is moved by it.

And this is all that I shall say touching the two great Faculties of the Soul, the Understanding and Will: I shall not add any thing here touching Passions or Affections of the Mind, 1. Because they are but a kind of appendices to the Will, the *Satellites voluntatis*; those of the concupiscible kind being as it were the flowers of the motion of Volition, those of the irascible kind the flowers of the motion of Averfation. 2. Because the Passions for the most part are found in the sensible Nature, namely those of love, hatred, delight, grief, expectation and fear; and therefore I shall not here treat of them.

3. I come now to consider of those rational Instincts as I call them, the connate Principles engraven in the humane Soul; which though they are Truths acquirable and deducible by rational consequence and argumentation, yet they seem to be inscribed in the very *crasis* and texture of the Soul antecedent to any acquisition by industry or the exercise of the discursive Faculty in Man, and therefore they may be well called anticipations, prenotions, or sentiments characterized and engraven in the Soul, born with it, and growing up with it till they receive a check by ill customs or educations, or an improvement and advancement by the due exercise of the Faculties. I shall shew first what they are: Secondly, what moves me to think that such are connatural.

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1. Touching the former, I think those implanted and connatural anticipations are these; namely, That there is a God; that he is of greatest Power, Wisdom, Goodness, and Perfection; that he is pleased with good, and displeased with evil; that he is placable; that he is to be feared, honoured, loved, worshipped, and obeyed; that he will reward the good, and punish the evil; a secret sentiment of the immortality of the Soul, or that it survives the Body to be capable of rewards and punishments, according to its deportment in this life; certain common notions of Moral good and evil, of *decorum* and *turpe*; that faith and promises are to be kept; that a man must do as he would be done by; that the obscene parts and actions, though otherwise natural, are not to be exposed to publick view, *obvelatio pudendorum*; that a man must be grateful for benefit received: These, and some such common notions or intimate propensities seem to be connaturally engraven in the Soul antecedently to any discursive Ratiocination; and though they are not so distinct and explicit, yet they are secret Byasses inclining the humane Nature primarily to what is useful and convenient for it in proportion to the state of an intellectual Nature: That as we see in Brutes, besides the exercise of their Faculties of sensitive Perception and Imagination; there are lodged in them certain sensible Instincts antecedent to their imaginative Faculty, whereby they are pre-determined to the good and convenience of the sensible Life: So there are lodged in the very *crasis* and constitution of the Soul certain rational Instincts whereby it is pre-disposed, inclined, and byassed to the good and convenience proportionable to a rational and intellectual Life; a certain congenite stock of rational Sentiments and Inclinations which may go along with him, and fairly incline him to such a trade and way as is suitable to the good of his Nature; so that he is not left barely to the undetermination, incertainty, and unsteadiness of the operation of his Faculties, without a certain secret and gentle pre-disposition of them to what is right, decent, and convenient for their manage and guidance by these common anticipations, inclinations, and connatural Characters engraven in the Soul. 2. And that which inclines me to believe this, is not only the congruity of the supposition to the convenience of the humane Nature, and the instance of the sensible Instincts in the animal Nature proportionate to their convenience, and the great importance of them to the convenience thereof: But also that which is observable in the attentive consideration of the manners of Mankind in general, which seems to have those common sentiments in them, and to accord in them in a very great measure; and though evil Customs and Education much prevails among men, yet it doth not wholly obliterate these sentiments, at least from the generality of Mankind.

It must be agreed that these rational Instincts, as I call them, are not always so vigorous and uniform in their actings as the animal Instincts of Brutes are in their kind, which partly proceeds from that liberty of Will that is in the humane Nature which many times suspends or interrupts their energy and operation, partly from that mixture of the sentient Appetite with the actings of the reasonable Soul, which oftentimes trans-
 port it: Even the more simple and uncompounded any Nature is, the more uniform are its motions and actings; the natural Instincts and Proportions even of things inanimate (as of heavy Bodies to descend) are
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more uniform than the very Instincts of Brutes, who have a more complicated form or nature : But as this accidental interruption of rational Instincts doth not disprove their existences, so Man hath a greater advantage by the exercise of his Reason and intellectual Faculties, to remove those interruptions, and improve those connatural Sentiments or rational Instincts to his singular use and benefit, which abundantly recompenceth those Interruptions.

And if any shall say that there are or may be other means of propagation of those motions and inclinations in Men, namely, 1. A Traditional traduction of them into the World; and 2. The Exercise of the humane Intellectual Faculties upon the occurrence and observation of external Objects and Events : I answer,

1. As touching Traditional communication and traduction of those Truths that I call connatural and engraven, I do not doubt but many of those Truths have had the help of that derivation : But, first, such a Tradition possibly hath not been without interruptions by evil Education, and yet these Sentiments have obtained almost in all Ages and Places, though not without interspersions of certain corrupt additaments, obtained likewise by evil Custom or Education. But secondly, it cannot reasonably be supposed that a Tradition could so constantly and universally prevail and obtain among Mankind, unless there were some common consonancy and congruity of somewhat inherent in Nature which suits, corresponds and suffragates to that Tradition, and closeth with it, and accepts it.

2. As to the other, concerning the Exercise and Actings of our Intellectual Faculties, it must needs be agreed that those that I call Connatural Principles are in themselves highly reasonable, and deducible by a strong process of Ratiocination to be most true and most convenient; and consequently the high exercise of Ratiocination or intellectual Discourse might evince their truth and excellency, though there were no such originally inscribed in the Mind : But this no more concludes against the supposition, than it would conclude against the supposition of implanted Instincts in Brutes; which as they are in themselves highly reasonable and useful to their ends, and evincible by true Reason to be such, as it may be any thing we know : So also many, though not all the actings of those Instincts might possibly in the Brutes themselves be elicited by a strong intention and exercise of their Phantasie and sensible Perception, Ratiocination, and Connatural Implantation, are but several means or discoveries of the same thing which in it self is most highly reasonable; only the latter is for the most part less difficult, and readier at hand. But to the Objection.

1. Let any man but duly consider how few men there are in the World that are capable in respect of the meanness of their Parts and Education, to act and improve their Intellects or Faculties to so high a strain as the eliciting of those that I call Connatural Principles by the strength of their Intellectual Operation; this requires very choice Parts, great attention of Mind, sequestration from the importunity of Secular employments, and a long advertent and deliberate connexing of Consequents, which falls not in the common road of ordinary men, but of Philosophers, Metaphysical heads, and such as have had a more refined education, which

which is not the thousandth part of Mankind : Other men require a more easie and familiar access to these Truths and Inclinations ; and yet we see that these Sentiments are not confined to the *Literati* of mankind.

2. Again, I appeal to the most knowing men in the World that have but had the leisure to think seriously and converse with themselves, and that have kept their Minds free from the fumes of intemperance and excess, passion and perturbation ; whether next under Divine Revelation their best and clearest sentiments of Morality at least have not been gathered from the due animadversion and inspection of their own Minds, and the improving of that stock of Morals that they there find, and the transcribing of that Original which they found first written there : It is true, that it is with the connatural Principles inscribed in our Minds as it is with our Faculties, they lye more torpid, and inactive, and inevitable, unless they are awakened and exercised, like a spark involved in ashes ; and being either suppressed or neglected they seem little better than dead, but being diligently attended, inspected and exercised, they expand and evolve themselves into more distinction and evidence of themselves. And therefore it was not without some kind of probability that some of the Ancients thought that Science was little else than Memory or Reminiscence, a discovery of what was in the Soul before. But whatever may be said of other matters, certainly the first draughts and strictures of Natural Religion and Morality are naturally in the Mind.

And hence some thinking men have thought that the specific difference of the humane Nature is Propension to Religion, and therefore define Man to be *Animal religiosum*, which could not be from any habit barely acquiste by the exercise of Faculties, unless the same were radically engraven in the very texture of his Soul,

I shall add but this one thing more : It is plain that the existence of a Deity as a Being of infinite Perfection, and consequently of infinite Goodness and Justice to reward and punish, and of infinite Power and Wisdom, is a truth that is highly rational and demonstrable by the exercise of intellectual Faculties upon the consideration of the Universe and its several parts ; and possibly the Immortality of the Soul is evincible by very great reason : But these great truths are not communicated barely by one kind of means, and it is needful, in respect of their use, they should all have all contributions, and not only Brains to pursue a long train of consequences. And yet we shall find in the generality of mankind (especially when death begins to draw towards them) a very quick and active demonstration of these convictions, and possibly many times more vigorous and active than that rational conviction that is wrought by Speculation and Syllogisms, which evidenceth that these Principles of the existence of a most righteous and powerful God, and a state of rewards and punishments after death, are more universally engraven in the *Crafs* of the Soul by Almighty God in its natural constitution than barely by the exercise of Faculties in Speculation and Ratiocination.

And herein it must be remembered that I am in this Discourse still in the outward Court of the Gentiles, discoursing only as a reasonable Man, and not taking in the assistance of the Christian Doctrine and those *subsidia divina gratia* that relate thereunto.

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Therefore to conclude this point, There seems to be two means of communicating and preserving in the Soul and Conscience these great speculative and moral Principles whereof I have even now treated, *viz.*

1. That which I here call Connatural, or a certain rational Instinct engraven in the very Make and constitution of it: And as those that write of Conscience tell; us it hath three offices or acts, *Synteresis*, *Syneidesis*, and *Epicrisis*; so those Principles are lodged in that Chest of the Conscience called *Synteresis*.

2. A second means of attaining and keeping and improving these connatural Sentiments or rational Instincts both speculative and moral, is that admirable adaptation of the Faculties of the humane Soul to those Principles and Sentiments, that as the Eye discerns light and colour by a congruity between the visive Faculty and the visible Object, and as the Palate tastes and relisheth its meat by the congruity between the Faculty and the Object, whereby it judgeth of what is good and embraceth it, and what is evil to it, and rejects it: So in the humane Faculties, those of his Intellect and Will there is a proportionating of the Faculties to the Object, whereby the former discerns truth from falsehood, and moral good from moral evil, *honestum & decorum* from *indecent & turpe*; and accordingly the Will, when it acts regularly and as it should, accepts or rejects it: But as the estimative Faculty in Brutes is nevertheless consistent with their connatural Instincts, which latter have still excellent use in the sentient Province; so this adaptation of the Faculties in Man to their Objects doth not exclude those connatural, implanted, rational Instincts in the humane Nature, but both consist together, and are of admirable use to the humane Soul.

And thus far concerning the Soul of Man, its Faculties and Instincts.

I come now to consider of the structure and fabrick of the humane Body, and that not at large, for that will be for another place, but briefly and summarily to give an account of some of those appropriate and discriminating notices wherein it differs from and hath preference above the most perfect brutal Nature: And they are such as either concern the entire Fabrick of the Body, or such as concern some special Parts or Integrals thereof: but I shall mingle them together as followeth.

1. There is in the humane Fabrick a greater Majesty and Beauty than in any Animal in the World besides; and that appears, 1. In the erectness of his posture; all other Animals have transverse Bodies, as Birds and Beasts, and though some do raise themselves upon their hinder legs to an upright posture, yet they cannot endure it long, it is unnatural and uneasy to them, neither are the figures or junctures or order of their Bones, Nerves, and Muscles fitted to such a posture. And it is observable, that the structure of Man's Body is with that equilibration (notwithstanding divers prominences therein) the compofure of his Nerves and Muscles for the due motion of his Spirits, the structure of his Feet are so singularly accommodated; that he maintains this erect posture standing or walking, though his Feet, the *Basis* of the Pillar of his Body, be much narrower than the latitude of his Body. 2. In the Majesty of his Face and Eyes. 3. In the Beauty of his Face: Beauty consists principally in these things, Figure, Symmetry, and Colour. No Bird, or terrestrial Animal

Animal exhibits its Face in the native colour of its Skin but Man; all others are covered with Feathers, or Hair, or a *Cortex* that is obduced over the *Cutis*, as in Elephants and some sort of *Indian* Dogs; and though in the torrid Climates the common colour is black or swarthy, yet the natural colour of the temperate Climates is more transparent and beautiful.

2. There is no Animal hath any Organ of equal use to the Arm and Hand of a Man, that *Organum organorum*, an Organ accommodate to all the useful motions, operations, arts and uses of his life; Man is born without any offensive or defensive weapons like to those of other Animals, but by the usefulness and accommodation of this Organ and his Intellectual faculty he maketh weapons and useth them, he forgeth and mouldeth Metals, builds Houses and Ships, makes his Cloaths and Ornaments, and exerciseth all Arts for use and ornament.

3. There is no Creature that I know of, hath the like structure of his Leg and Foot; the former being only two to support his Body, have greater and larger Muscles than any Animal of no greater proportionable bigness; and the latter being the *Basis* of those Pillars, are admirably fitted by their length and figure for his *gressus progressivus*.

4. Since the Brain is the great Organ of Intellection in Man, and of Imagination in Brutes, which are the two noblest Faculties of either Nature, it will not be amiss to examine the differences between the Brain of either, and the Nerves proceeding from either, wherein none that I know hath given more light than Doctor *willis* in his Anatomy of the Head; all therefore that I shall do herein shall be to gather up the most of those observable differences that lye dispersed in that Book.

1. The humane Brain is in proportion to the Body much greater and larger than the Brains of Brutes, having regard to the size and proportion of their Bodies, and fuller of *anfractus* or sinuations, and so more capable of greater diversity of employments and uses in the Perceptive Faculties.

2. There are in the Brain certain portions called *protuberantia annularis*, *nates*, & *testes*; and that in those Brutes wherein this *protuberantia annularis* is largest in proportion, those Brutes are of greatest sagacity and subtilty, as Foxes, Apes, &c. that though in Man those prominences called *nates* and *testes* are the least, yet the *protuberantia annularis* is greater in proportion in Man than in any Animal, the structure of this Organ being fitted to a greater degree of natural sagacity.

3. That whereas in Brutes the only communication of the Brain with the Heart is by the *nervus paris vagi* derived from the *Cerebellum*, and spreading its branches into the Muscle of the Heart; in Man there is not only the same communication of that Nerve, but a ramification of the *nervus intercostalis* is also inserted into the Muscle of the Heart, whereby a greater communication between the Brain and Heart is maintained in Man than in Brutes.

4. That other ramifications of this *nervus intercostalis* are derived into the Chest and *Diaphragma*, whereby principally that peculiar affection of Laughter is excited, more appropriate to Man, together also those others of Sternutation and other natural actions common to Men and Beasts are excited, but not from the like communication of that Nerve in Brutes.

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And thus much shall serve to be spoken of the peculiarities of the Humane Body, though what I before said touching the Faculties of the Animal Nature in Man must also be remembered touching the organical parts of his Body: There is no Organ in the Brutal Body subservient to the Animal Faculties, which is not found in the Humane Body, with such variations and additions as render them more curious, perfect, useful, and admirably accommodate to his Animal Life and Faculties: But of this more fully hereafter.

3. I shall now subjoin a Consideration of Man in his whole *Compositum*, consisting of both his essential parts of Body and Soul, and of the aggregation of the Faculties and Organs belonging to either, so far forth as they evidence his appropriate and specific Excellency above the Animal Nature.

The appropriate or specific acts of the humane *compositum*, are the capacity and faculty of instituted Signs, expressive of the inward conceptions of the Mind, which are of two kinds: 1. Audible, 2. Visible Signs.

The Audible Signs are instituted Speech or Language, the formal nature whereof consists in two things: 1. Articulate Voice; 2. The accommodation of the Articulate Voice to the rendring or expressing of the inward thoughts or intentions of the Mind: And herein is the great preference of the language of Man above that of Brutes or Birds, who though they have audible signs that express something of their Imaginations or Appetites, yet they extremely differ from humane speech: 1. They are but short and transient, like Interjections in speech, whereby though they express the sudden motions of their Phantasie, Appetite, or Passions, yet they carry not with them any distinct *series* or long train of their Imaginations; they are short and sudden, somewhat like Sighs or Ejulations in Man. 2. They are not articulate, nor orderly, but short, natural and broken. 3. When Birds, especially by the fabrick of their Tongue and Palate, are taught to use articulate words, yet they understand not their import, nor do render any conceptions of their Phantasie by them, nor can answer a question by them, but use them insignificantly, as the Organ or Pipe renders the Tune which it understands not.

And by the help of significant and articulate speech, one Man expresseth the notions or conceptions of his Mind to another, instructs another, mutual commerce and society is maintained, which could never be without instituted signs.

And this Act of instituted signs, especially those of Speech or Language, proceeds from the entire *compositum*, the Mind instituting the signs, and communicating its notions and desires by it, and the Palate, *Larinx*, Tongue, and Lips, forming the Voice according to such institution, whereunto they are most admirably accommodated by their Apertures, Nerves, and Muscles.

2. The instituted visible Signs, are Writings, Gestures, Tears, Motions of the Eye, Mouth, and Face, which were long to enumerate: By means of writing, former Ages transmit the Memorials of ancient times and things to posterity; Men understand the sentiments, purposes, and desires of one another, though absent, and the living converse with those ancient Philosophers, and others, that are long since dead.

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And now in this composition of the humane Nature, we have these things observable;

1. That in this contexture of the Humane Body and Intellectual Soul we have a Creature made up, that is, *nexus utriusque mundi, intellectualis scilicet & corporei*. The next Range of Beings above him are the pure and immaterial Intelligences, the next below him is the sensible Nature. Man is as it were the *Comes limitaneus* of each Nature, participating of both. And we may observe, that in the process of Natural Beings, there seem some to be Creatures placed as it were in the Confines of several Provinces, and participating something of either; as in things that have life and that have not; there is placed the Minerals between the inanimate and vegetable Province, participating something analogical to either: Between the vegetable and sensitive Province there are Plant-animals, and some kind of Insects arising from Vegetables, that seem to participate of both: Between the animal and rational Province, there seem to be some Animals that have a dark Image or resemblance of the Influxes of Reason. So between the corporeal and intellectual World, there is constituted Man, participating much of both Natures: *Ita quod non transitur ad extrema nisi per media.*

2. That Man in his constitution seems admirably fitted to the convenience of his Nature, a little World accommodated with Faculties and Organs admirably convenient to it self, a kind of entire State, Kingdom, or Republick within himself, fitted with all accommodations and requisites for the due Regiment of himself, as a Sensible and Intellectual Being: He hath the Council or Senate of his Intellect, and her subservient Acts and Faculties to advise him, the Empire and Regiment of his Will to command the *Satellites* and Ministers of his Passions and Animal Spirits to execute his Conscience for his Tribunal: There wants nothing within this little Circle of himself, which may be requisite to order that little compacted Province for its Political Regiment.

And thus far concerning Man, as relating to himself, his Parts, Faculties, and entire Composition: It remains, that we take a little survey of him, as he stands in relation to things without him; which is the last Consideration that I promised in this brief Inventory of the Humane Nature and Excellencies.

The Humane Nature, thus fitted with these Faculties, is admirably accommodated to a threefold relation to somewhat without him, namely, To Almighty God: To the rest of Mankind: And to this *mundus spectabilis* wherein he lives.

1. To Almighty God; for being a Creature endued with an Immortal Soul, endued with those great Faculties of Understanding and Will, and those *Facultates Ancillares* of his Affections, he is rendred into a capacity,
 1. Of knowing Him: 2. Of knowing his Will, and what is acceptable to Him, for it is in a great measure inscribed in his Soul: 3. Of being a fit Subject to Him, and to obey Him: 4. Of loving and trusting in Him: 5. Of glorifying of Him, especially in the Contemplation of His Works, which are proposed to his Sense and Understanding: 6. Of Invoking and Worshipping: And 7. Finally, to enjoy the Blessed Vision of Him, by reason of the congruity of his Immortal and Intellectual Nature to such a fruition. And thus we have him in his Duty, Religion; and in his Happiness, Immortal Life,

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2. To the rest of mankind he is accommodated with Moral principles inherent in his Nature, and improvable by the exercise of his Faculties, as is before shewn; he is accommodated with Speech and Intellectual signs to maintain intercourse and mutual communion and commerce; and his very disposition and the mutual necessities of humane Nature necessarily maintain mutual offices and correspondence between them; and the accommodations of Government and Laws are the fruit and productions of his Intellectual nature, and the support of society.

3. To the rest of the visible World; there is an admirable accommodation of the humane Nature and Faculties to the *Mundus aspectabilis*, and of the several parts of it, and of them to it.

1. Of the Faculties of the humane Nature to the visible Universe, especially the vegetable and animal Natures, which by means of the admirable advantage of his Intellect, and that singular Engin of the Hand, he hath skill and power to subdue and bring under, whereby he exerciseth dominion over them and protection of them, as the Vicegerent and Deputy of Almighty God.

2. Of the Universe and parts thereof to the humane Nature and Faculties, which were infinite to enumerate; I shall only insert some of them.

1. A kind of awful subjection and fear of the greatest part of the animal Nature, of him and to him; and though some be so hardy and unruly as to resist him, yet he wants not power by the advantage of his Understanding and Hand to subdue and master them.

2. An accommodation of most of the things within the compass of the visible Universe to his use and convenience, which though I cannot say it is the only or the prime end of their being, yet they are singularly accommodated to the use, delight and benefit of mankind, as might easily appear by an enumeration of particulars: The light, motion, and influence of the Sun and Stars; the nature, position and frame of Elements; the variety and concurrence of the Meteors; the fertility of the Land; the position of the Ocean; the interspersion of the Rivers; the various Minerals, Vegetables and Animals, some serving for his food, some for his clothing; some for his labour and travel; some for his delight; the whole compass of Nature affording infinite variety of Instances of this kind.

3. An admirable accommodation of all the things in the World to his Faculties, and for their delight, advancement and improvement. He hath the perception of Sense, to which all the visible Objects of the World are presented, and he hath the light and searching Faculty of his Understanding, which as it is qualified for such an employment of Contemplation, so it hath a fruitful exhibition of Objects of great variety and excellency, the knowledge whereof doth not only delight and enrich his Faculties, but are so many manuductions to the knowledge and admiration of the infinite Wisdom, Power and Goodness of the Creator and Upholder of them.

And thus I have given a short and brief estimate of the peculiar Excellencies of the Humane Nature: I did not design a large or exact enumeration or description of them: There is not any one particular above-mentioned but would take up the business of a just Volume, and

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I am easily conscious that I have omitted many things that possibly might be of as great importance as any that I have mentioned: But this brief Inventory I have here given as preparatory to what follows, and to pre-pose the Reader, 1. That a natural Indagation according to the light of natural Reason touching the Origination of such a Creature as this, is no contemptible or unworthy enquiry: 2. That surely such a Creature as this thus accommodated could not have his Origination from any less than an Intellectual, most Wise, Powerful and Beneficent Being, the great God, Creator and Governour of Heaven and Earth: And this is the scope and end of my business in this Tract, the short *Synopsis* whereof is as followeth.

There are two grand Opinions among the Ancients touching the Origination of Man: The first is, That Humane *Species* had no beginning, but was Eternal; the second, That it had a beginning.

In the first place, I examin the supposition of the Eternity of Mankind in their successive Generations; And in order thereunto I take up the consideration of the Eternity of the World as it is now constituted, and, whether it be in Nature possible that it should be so: I then descend to the particular consideration of the Eternity of Mankind, whether although there should be a possibility of an eternity of some permanent created Beings, whether yet there be a possibility in Nature, or any probability of evidence that Mankind can be eternal *à parte ante*, or without beginning.

This I oppose by Arguments of two kinds, 1. From the very repugnancy in Nature of successive Beings to be without an inception, or eternal, and upon these kind of evidences I do indeed lay the principal weight and stress of my Conclusion, because though these kind of Arguments may seem more obscure, yet upon a due consideration of them they are highly consequential and concludent to my purpose.

2. The second sort of evidences are Moral evidences, wherein I take into consideration most of those Moral evidences that have been collected by others or thought of by my self against the Eternity of Mankind: Whereupon I do conclude, 1. That singly and apart many of them are subject to exception, yet collectively they make up a good moral evidence touching a temporary inception of the humane Nature: 2. I do consider the particular deficiencies of those moral evidences taken singly and apart: 3. I substitute other moral evidences that even singly and apart have each of them a great moral and topical evidence of this truth, and are not capable of any considerable Objection against them, though taken *figillatim* and apart.

But when all is done, I lay the great stress of my Conclusion upon the first sort of Evidences natural, or metaphysical, which seem to me no less than demonstrative; and therefore if no other moral evidences were added thereunto, or if those moral evidences should be capable of exception (as some of them are) yet the truth of the Conclusion against the eternity of Mankind is sufficiently supported by those that I offer in the first place, which I call Physical and Metaphysical.

2. Again, I then come to consider that Opinion which supposeth an Inception of the Humane Nature.

I consider the various *Hypotheses* that the Ancients entertained touching the manner

manner of that Origination, and shew the absurdity of them in their several orders.

I then consider the Mosaical *Hypothesis*, and the great reasonableness thereof upon a bare Natural or Moral accompt, without taking in the Infallibility of Divine Revelation.

In order to that, I consider the whole Mosaical Systeme or History of the Creation of the World, the admirable congruity it hath, both with it self, and with a due and unprejudiced and considerate Reason.

And lastly, I deduce certain Corollaries ~~and~~ Consequences from the whole Discourse, both Theoretical and Moral, and this is in effect the whole Method of what these Papers contain: Wherein I proceed meerly upon an account of Natural Reason and Light, because in this Discourse I deal with such as are either only or most commonly guided and governed by such Sentiments, and therefore I do not call in to my assistance the Authority of Divine Revelation, though that of it self doth and ought to carry the full and unquestionable Assent of all good Men that are acquainted therewith.

C A P. III.

A brief Consideration of the Hypotheses that concern the Eternity of the World.

Although I intend not a large Discourse touching their Suppositions that hold the Eternity of the World, yet it will be convenient a little to consider it, for the better application of what follows in the ensuing Discourse, touching the Eternity of the Successions of Mankind, and the possibility or impossibility thereof.

The Supposition of the Eternity of the World is considerable under a double relation: 1. With relation to the Notion of Eternity: 2. With relation to the Subject it self, which they would have eternal, namely, the World, either wholly or in some parts thereof.

In relation to Eternity it self, two things are to be premised: 1. What it is; 2. What its Kinds are. 1. As to the former, in all this Discourse I call that Eternal which is without beginning, or eternal *à parte ante*. 2. Things thus supposed Eternal may be of two kinds, either such as have an Eternity simply independent upon any thing without it, or from which it should derive that Eternal Being, as we and all good Men say that Almighty God is Eternal: Or else, such an Eternity as yet supposeth its dependence upon Almighty God as its Cause. And they that attribute the first kind of Eternity to the World, must do it upon one of these two grounds, *viz.* That there is no other first Being, no first Cause, no God, upon whom the World should depend, or from whom it should derive this its Eternal Existence: And this is the grossest and most irrational Supposition, as well as the foulest Atheism, that can be imagined. Or else, That although there be in truth such a Being as God, yet the World had not this its Eternal Existence by any derivation or influx from Him,

Him, but hath it absolutely and independently. This is the *Epicurean* Atheism, which though it oppose the Eternity of the World in that consistency that now it hath, yet it asserts the Eternity of those small and infinite particles of Matter, and the coalition of them into that state wherein they now are in process and succession of time and motion, yet without any dependence of the one or the other upon Almighty God, whom he totally secludes from the concerns of the World.

Others there are again, that attribute an Eternity to the World, but yet withall acknowledge Almighty God, and also Him to be the Efficient thereof: And therefore though they attribute an Eternity to it, yet it is but a dependent Eternity, and so though it be Eternal, yet it is but an Eternal Effect of an Eternal Cause. These are much more tolerable than either of the former, for they assert a God, and likewise the dependence of the World in its Eternal Existence and Duration upon Almighty God, as the Cause and Root of that Being of the World.

But among those that thus assert this dependent Eternity of the World upon Almighty God as its Cause or Efficient, there seems to be two Parties, namely, 1. Such as suppose Almighty God the Necessary Cause of the World as his Necessary Effect. 2. Such as suppose Him meerly the Voluntary Cause of the World and of its Eternity. Of the former sort, that suppose Almighty God the Necessary Cause of the World and of its Eternal Existence, there seem to be these two Parties or different Opinions.

1. Such as suppose the World a meer natural and necessary Emanation from God as its necessary Cause, without any manner of intrinsical freedom in Himself to do or be otherwise, and consequently it being a necessary and connatural Effect of the first Cause, it must be necessarily as ancient as Himself, and if Almighty God be (as He is) most necessarily, so upon the same necessity He is the Cause of the World, and the World a necessary, and consequently Eternal, Production necessarily flowing from the same; as if the Sun be Eternal, his Light, which necessarily flows from the Existence of the Sun, is likewise necessarily Eternal. This seems to be the Opinion of *Aristotle*, and some others that follow him.

2. Again some there have been, who will not have Almighty God to be a meer natural and necessary Cause of the World, but such a Cause as is a free Agent, *agens per intellectum & voluntatem*, and that the World was an Effect of Him, not as a natural or necessary, but as a voluntary and free Agent: And yet the World was necessarily Eternal, though freely willed to be Eternal. For they do suppose, that in as much as God Almighty is necessarily Good and Wise, and it is part of his Perfection to will what is best, and always to will it, therefore the Divine Will was always determined, even eternally, to will the Existence of the World, as a thing eternally consonant to the Perfection of his Nature, to will and always to will what is best: And there was never, in all the vast and boundless Period of Eternity, any one moment wherein he willed not to communicate his own Benignity and Bounty to something without Him, and therefore though he freely willed the World to be, as a free Agent, yet that freedom of his Will was from all Eternity determin'd, by the Perfect Goodness and Beneficence of his Nature, ever to will what He once willed, and consequently to will the World to be Eternally: Herein confounding the Divine Goodness with the Divine Beneficence
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and Benignity, the former being indeed necessary, but the latter under the Conduct and Guidance of his Free Will, indetermin'd by any thing but it self.

Others there are that attribute the Being of the World to the meer *benepiacitum voluntatis divine*, neither determin'd as a meer Natural cause, nor determin'd by any intrinsecal obligation of his own Goodness, but only that he willed it because he willed it, though most wisely and bountifully: Many of these do not indeed conclude the World to have been eternal, but in conformity to the truth of the Sacred Scriptures conclude it to be created in the beginning of time, but yet do again conclude that there is nothing in the nature of the thing either on the part of Almighty God, or on the part of the World it self, or on the part of the manner of its Creation which is instantanous and *per modum emanationis*; but that such parts of the World at least as have a permanent existence, and are not in a flux of succession, might have been not only in some period antecedent to that point of time wherein *de facto* it was created, but also that it might have been thus eternally created if the Divine *benepiacitum* had so pleas'd: And therefore many of those do not conclude that it was so, but that it might have been so eternally created, yet freely and voluntarily without any of the two foregoing necessities. Thus *Aquinas*, *Suarez* and some others.

And thus having consider'd these various suppositions touching the divers qualities or qualifications of this eternal Existence of the World, I shall now consider the subject Matter which men would thus have to be eternal, or at least possible to be such, namely the World. And herein even many of the assertors of the Eternity of the World, or the possibility thereof, have (and not without cause) falln into divers conclusions.

By the World therefore we must understand either the Matter of the World simply in it self, without being determin'd to this determinate Fabrick wherein it is; and thus it should seem that all those ancient Philosophers that have assert'd the Eternity of the World, as *Aristotle*, and before him *Otellus Lucanus*: or, that have assert'd *novitatem mundi in hac constitutione*, have agreed; thus *Epicurus*, that assert's the coalition of Atoms into this Fabrick that we see, was of later edition than Eternity, yet assert's that these Atoms were eternal: and those Ancients mentioned by *Aristotle* in the 8th of his *Physicks*, that held that the World was made, and unmade and made again by eternal vicissitudes of *Amor & Inimicitia*, yet held the constituent Matter thereof eternal. And this seems to be the most comprehensive acceptation of the World.

2. Again, by the World we may understand the World as it is now fram'd, the visible World in that form and constitution as it now is: And thus it seems, *Aristotle* and those others that hold it proceeds necessarily from God as a necessary cause, or as a cause determin'd by his intrinsic Goodness, have held the World to be eternal; but yet we must not rest here. The World is like a goodly Palace, a fair large Building; but as in such a Palace there is first the case or fabrick or *moles* of the Structure it self, and besides that there are certain additaments that contribute to its ornament and use; as various Furniture, rare Fountains and Aqueducts, curious Motions of divers things appendicated to it, as
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Clocks, Engines, &c. so in the goodly Universe there are the great Structure it self, and its great integrals the Heavenly and Elementary Bodies, framed in such a position and situation, the great Sceleton, as I may call it, of the World: But besides this there are very various and curious furnitures and accommodations of the Universe, as for instance, in our inferior World various Animals, Vegetables, Meteors, Minerals, Mixtures, and Men; and in the Heavenly Bodies various Motions and Aspects.

Now it will be necessary for him that asserts the Eternity of the World as now it stands, or the possibility of such an eternity, to consider whether he applies his assertion to the whole World, as consisting not only of the greater integrals whereof it consists, as the Heavenly and possibly the Elementary Bodies; but also of that furniture thereof consisting of Men, Animals, Vegetables, Meteors, Minerals, and those accommodations that are to it, as the Motions of the Heavenly Bodies; or whether he intends only some parts of it which seem more capable of an eternal existence, as being more fixed, and in themselves permanent, and so more able to sustain an eternal and consequently an immutable existence.

And upon examination we shall find either of these choices full of incurable difficulties, if not utter impossibilities, in relation to an eternal existence of the World or any parts thereof.

And this I shall in the order of this Discourse evince against all those former suppositions of Eternity; namely, 1. Against those that assert an independent eternal existence of the World: 2. Against those that assert an eternal but dependent existence thereof upon Almighty God, as a meer natural and necessary Cause thereof: 3. Against those that assert an eternal existence of the World dependent upon God as a free intellectual and voluntary Agent, but yet determined in his external emanations by the necessity of the Goodness and Beneficence of his nature: 4. Against those that assert at least a possibility of an eternal existence of the World, but dependent upon the freedom of the Divine Will undetermined by the necessity of his Beneficence.

First therefore concerning the supposition of the Eternity of the World in general, I shall not in this place dispute whether there be an utter impossibility of any material Being to be either independently or dependently eternal; enough may be said against it from the incapacity of any material Being to sustain such a kind of duration *à parte ante*, and yet without any derogation to the Divine Omnipotence or Goodness, which though infinite, yet cannot communicate such a duration to that which in its own intrinsic nature is not capable of it: Nor secondly, shall I dispute whether there be any such material or corporeal Being or Beings within the compass of the Universe, that hath or may have such a kind of permanence or fixedness in being that may be capable of an eternal existence *à parte ante*, either dependently or independently upon Almighty God; admitting by way of argument, but not granting it possible, that in the nature of the thing some material or corporeal Being may be of such a fixed, permanent consistence as may sustain such an eternal existence; and I here omit this dispute not because I make the least doubt of the beginning thereof by Creation, but because these are matters that

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require a longer and stricter process of enquiry and debate than I intend in this place: and therefore I shall descend to things that are more plain and evident, and yet such as will abundantly serve my design in the inquiry in hand.

And therefore for the present I shall *gratia argumenti* admit or suppose,
 1. That there are or may be some corporeal things in the compass of the Universe that may possibly be of such a fixedness, stability and permanent nature that may sustain an eternal existence, at least dependently upon the supreme Cause. 2. And that possibly Matter it self undetermined to any particular form, or under any particular constitution, the Heavenly Bodies, the Elementary Bodies, and such as seem to have a simple nature; and possibly their figure, position, and situation may be such as might have this eternal existence, as the Sun, the Stars, the *Aether*, the four Elements; we will, for avoiding dispute touching it for the present, admit them to have been, or that possibly they might have been of that nature, quality, distance each from other eternally as now they are, like the great integrals and contignations, figure and concamerations of a goodly Palace: These things I say, though in themselves most certainly untrue, I shall for avoidance of difficult disputes admit at present. Yet I farther say, that though all these things were admitted, yet there are some great and considerable parts and integrals, and appendications unto the *Mundus aspectabilis* that we see, that are purely impossible to be eternal, and do *de facto* appear so to be; and consequently it is apparent that the World in its full latitude and comprehension cannot be eternal.

And herein I shall not fix upon little or inconsiderable things, but upon such as highly contribute to the excellency, beauty and usefulness thereof; neither shall I fix upon individuals which are apparently transient, and necessarily have their beginning, duration and end in certain known determinate portions of time, as is evident in the individuals of all kinds or *species* of mixed, sublunary Natures: But I shall apply my self to the *species* themselves, which most that assert the eternity of the World assert to be eternal, or to such individuals as are the single Conservators of their own *species*.

And in this debate I shall take my measure from things in Nature as I find them; and it is reasonable I should do so, especially considering that this Discourse concerns principally the Judgments or Opinions of those men that are the great assertors of Nature, and the eternity of those Laws, Rules, Orders, or Methods of Nature which they now find and observe in it: And it were a great vanity and rashness especially for such men to reject those reasons which are drawn from the nature of things as now they appear, or for them to go about to answer those reasons by suppositions of a variety in things from what they now appear. If therefore the state and method of things to be instanced in, as they now appear, do involve a repugnancy to an eternal existence, the Arguments drawn from that Supposition must be conclusive, at least to those great Priests and Venerators of Nature and its appearances.

Those things therefore that I would instance in, as in their own nature incapable of eternal existence *à parte ante*, are these:

1. All things that are of all hands agreed to be concentered of other things, and necessarily in their own nature require a pre-existence of those

those more simple Bodies out of which they are concreated, and a pre-existence of some preparatory antecedent motion for their coalition, mixtion and concretion; as Animals, Vegetables, Minerals, Meteors, and regularly all mixt Bodies.

2. All things that are in their own nature successive, as all Motion, Alteration, Generations, Corruptions, and all things that in their own constitution have as it were intrinsically annexed to them, or at least necessarily belonging to them in respect of their situation and position, and juxtaposition to other things, a necessary subjection to alteration or corruption.

3. All things that do not, nor (their nature considered) cannot persist in one immutable state, but have variety in the nature and manner of their existence necessarily by the laws of their nature annexed to them.

These things constituted and being in that state we find them, cannot without a total alteration of their nature and being from what in truth they are, nor in the state of nature wherein they are placed, can they be eternal or without beginning: And these are very considerable and momentous parts or appendices of the World, and if it had been eternally without these, it had been a very lame and defective World, and such as the wisest man under Heaven could hardly understand for what use it would be, or why it should have continued in such a defective condition from the endless period of Eternity: Or at least if it had its use and beauty, certainly it had not had the same use that now it hath, nor the same beauty that now it hath.

And the consequence thereof is of great moment and importance, *viz.* If these great accessions to the World, whereof I am speaking, could not be eternal, and yet without them the World would have been greatly deficient from what it is, the greatest Arguments for the Eternity of the rest of the World will necessarily fall off: for the same reason that concludes for the necessity of an eternal existence of the World, would as effectually conclude for the eternal existence of that which highly conduceth to the beauty, use, and ends of the Universe, which yet we shall find cannot be eternally existing, as it concludes for the eternity of such integrals of the World which possibly might be eternal. Again, if it be inconsistent with the nature of many of those things eternally to be, which yet contribute much to the glory, beauty, usefulness and excellency of the World, as mixt Bodies, motion, and alteration; how can we think that there is a necessity in the Divine Nature to have made that Case or Skeleton of the World from eternity which should have been in so great a measure useless, and wanting that beauty, order, use and perfection which it obtains from the contribution of mixt Bodies, motions, and alterations? And what could be thought a sufficient motive to have had an eternal Carcass of an Universe wherein the materials and positions of it were eternally laid together, and to consist infinite millions of Ages; and yet that which gives it its beauty and ornament and use, at least in a great measure, must be brought to a beginning five, or six, or ten thousand years since, and not before? The nearness or novelty therefore that is necessarily required in these great contributions to the beauty and use of the Universe is a great evidence of the novelty of all the rest:

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And therefore although the House must be built some time before it be furnished, and the Watch must be made, the materials formed, adapted and fitted, and the whole put together before it be put in motion; yet it were unnecessary and vain to suppose the Case or Fabrick of the House, or the Fabrick and Composition of the Watch, were an infinite time before its furnishing and setting into motion.

But to the business it self, and the Instances above given:

1. It seems inconsistent with the Nature of mixed Bodies that they should be eternal, for then they must be as ancient as those simple Bodies out of which they are taken.

That there are in our inferior World divers Bodies, that are concreated out of others, is beyond all dispute. We see it in the Meteors; the Clouds are attracted out of moist and watry, and also earthy Vapours; Stones and Minerals do grow and arise in the Earth, out of the *succus terrestris* digested by the heat of the Sun: Divers Vegetables, and some Animals, *sponte nata*, arise from the temperament of the terrestrial and watry Matter, the insinuations of the *Aether* and Air into it, and the influence of the Sun: Other Animals, and some Vegetables, have a more regular production from Seed, as some of the perfecter sort of Vegetables, and the nobler Animals, and Men; which seminal Principle is a mixture of the divers particles of Matter and Spirits, derived and elicited from the Plant or Animal.

And as it is apparent, that there are such mixt Concretions, so it is apparent, that before the actual concretion of these mixt Bodies there must be pre-existent to it: 1. The Matter, or more simple Bodies out of which they are concreated: Again, 2. There must be antecedent to it that Ethereal or Solar heat, that must digest, influence, irradiate, and put these more simple parts of Matter into motion and coalition: And 3. Before the full and perfect formation of this concrete, there must be a preparation, and digestion, and formation of this Matter, before it come into a perfect Concrete, be it of what kind soever; and this preparation, digestion, and formation, requires a competent *mora*, or time, antecedent to its complete and full constitution. All these are evident, in a more special and eminent manner in the production of Animals and Vegetables, but I shall at present take the Instance, that is obvious every day in our Gardens, in the production of a common Flint or Pebble: First, there is the more simple Matter, out of which it borrows its substance, namely, the Earth, and the Water or Moisture; then there is the heat of the Sun, that digests and concocts both; then there is the conjunction and cohesion of the Matter into a more loose, or indigested and softer consistency like Mortar or Clay, and thereby it is prepared to the concrement of a Pebble or Flint, which possibly in a week or a month it perfectly obtains. Every Man must needs see, that in the natural course of things this Pebble doth suppose, as pre-existent to it, the more simple Matter out of which it is defumed, the heat and influence of the Sun, and the due preparation of the Matter; which takes up a competent time, and that necessarily, before this Pebble had its complete Being: And consequently, in the course of Nature, it is impossible that any Pebble was eternal, for it necessarily required these things to have been before it could be, and yet if it were eternal, it must have been as ancient as
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that Earth, and that Water, which was its material constituent, and as that Sun, whose heat digested it, or coagulated it, or as that preparation which preceded its consistence.

And though this Instance be of one Individual, and that of the basest nature, yet the very same reason holds in all mixed Bodies, as in Meteors, Comets, Minerals, Vegetables, Animals, their Seeds and Productions. The consequence of this is, that it is impossible that mixed or compounded Bodies can be eternal, because there is necessarily, according to the Rules of Nature, a pre-existence of the simple Bodies out of which they are desumed, and an antecedence of their constitution preceding the existence of mixed Bodies.

If any Man shall object against this Reason, and say, That it destroyeth my own Foundation, which supposeth a creation or concrement of those very Bodies which I suppose to be mixed, as Animals, Vegetables, &c. without all this preliminary process, or orderly antecedency of such circumstances, as are now in the course of Nature, as it stands settled, necessary to their production: And that, as I do suppose, all created Beings had at first their primitive production by the *Fiat* of the Divine Will and Power, so in the defence of that Supposition or Conclusion, I must suppose another method of production of mixed Bodies, than what we now find in Nature as it stands settled.

I answer, That it is true, I must and do suppose another kind of method in the first and primitive Constitution of things by Creation: But it stands and consists with, and is consonant to my whole Supposition, and indeed my general Supposition cannot possibly be or consist without a Supposition also, That the first constitution and coalition of mixed Bodies was quite of another frame or method, than what now obtains in settled Nature.

But the Objector must consider against whom and what kind of Opinions the Reason above given is levelled, who take all their Measures from things as they now see them in settled Nature, and do thereupon assert, That the order and method of the existence and production of all things was eternally the same as now it is. And therefore certainly this Reason is fully concludent against those persons that would suppose an Eternity in all things in the World, independent upon the first Cause and Efficient: For certainly those of their Principles do and must needs suppose, that things had no other method of their production than what we now see they have, and therefore they must (if they hold to their Principles) agree that they had their production always as now they have: The necessary consequence whereof is, that if such a kind of production of mixt Bodies cannot in the nature of the thing be eternal, they cannot have an eternal production.

But it is true, that this doth not answer the Supposition of those, that though they suppose an Eternity in mixt Bodies, do attribute even that Eternity to an eternal Creation, and therefore to another kind of production than what we now suppose to be natural, and consequently as they suppose, at first in an eternal moment Almighty God created simple Bodies, as the Heavenly or Elementary Bodies, so in the same instant He might and did create other Bodies, which though in their constitution they were or might be composed of such particles, as had they been asunder
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and divided, might have been of the simple nature of those simpler Bodies, yet they were in the same eternal moment or instant created and put together without any priority of existence in those simple Bodies whereof they might otherwise consist; nor were such mixt eternal Bodies successively delumed or compounded out of the pre-existing simple Bodies, but con-created and put together in the same eternal and indivisible moment or instant: so that a Mineral for the purpose might be created in the same moment wherein the elementary Earth was created. And although after the completing of the whole Frame of Nature in that eternal, indivisible, intelligible moment, the production of mixt Bodies either by spontaneous or contingent coalition of various particles of Matter, or by an univocal generation, the course that is now held in Nature might be observed, and that Priority of particles of simple Matter, Influx of the Heavens, and Preparation of Matter might be antecedent and precedaneous not only in order but in time to their ordinary productions; yet at first it might be, and was otherwise in the primitive constitution of such mixt Bodies as had their original by Creation.

I do confess this Supposition may evade the illation made upon the Natural production of mixt Bodies, but then we must remember that this quite departs from the method of things as they now stand in the course of Nature; neither can any man conclude that it was or could be so from the observation of the Order or Cause of Nature, or any rational deduction from the same, but must have recourse either to bare Notion or Conjecture, or else to Divine Revelation; the former seems somewhat too light, soundly to ground any *Hypothesis*; and the latter, namely, Divine Revelation, though it doth discover unto us that things had their production in a different way in their first Constitution or Origination, namely, by the almighty Power of God creating them, yet withall it informs us that that origination was not from Eternity, but in the beginning of Time, which wholly overthrows the *Hypothesis* of an Eternal Creation of the World: If therefore they will appeal to Revelation for their Creation, they must be concluded by it, not to say it was eternal.

2. My second Reason is this, Because all things that are in their nature successive must have a first beginning of their being, and cannot be eternal. But there are in the World many things of great note and moment (and without which the Order and Usefulness of the Universe would be deficient) which have a successive nature; and therefore such things cannot be eternal or without beginning: And this reason concludes forcibly as well against that independent Eternity supposed by some of the Ancients, as that Eternity dependent upon Almighty God, whether as a necessary Cause, or as a free voluntary intellectual Cause determined by the necessary Goodness and Beneficence of his nature; or as a perfectly free Agent, determining his Will by his own *beneplacitum* thus eternally to produce the World.

The Assumption or minor Proposition, That there are many things in the World of great moment and importance to it that are in their own nature successive, is apparent; such are all the Individuals of *Species* of corruptible things, that yet notwithstanding have a continued succession in their individuals; as Vegetables, Animals, and Men, that successively propagate their

their kind. 2. All kinds of Motions to which all natural Bodies are in some kind or other subject, as the motions of Generation and Corruption, Augmentation, Diminution, and Alteration that are unceasingly incident to all sublunary Bodies, and they must change their nature and cease to be what they are, before they can cease to be actually subject to alterations; such is also Local motion, communicable not only to the inferior and sublunary Bodies, but also to celestial Bodies, and this motion even of the Heavenly Bodies themselves seems to be partly continued and uninterrupted, as that motion of the First Moveable; partly interpolated and interrupted, as some affirm of that *Motus trepidationis*; sometimes of access and recess, as the Annual motion of the Sun, wherein some have thought there is a small, though imperceptible, rest in the very point of returning, which we call Solstices.

The major Proposition, namely, that such successive things cannot be eternal, includes two Affirmations, *viz.* 1. That the motions or successions themselves cannot be eternal or without beginning: 2. That the things that have necessarily and inseparably these motions or alterations annexed to their nature cannot be eternal, so long as we suppose them necessarily accompanied with these alterations: The former of these is considerable in this place, the other is considerable under the next Reason.

Now touching the impossibility of the eternal succession of the *Species*, whether of Men, Animals, or Vegetables by natural propagation or procreation, the same and the Reasons thereof shall be fully delivered when we come to the particular consideration of the Origination of Mankind, and the necessity of fixing in some common Parents of the individuals of Mankind, and thither I shall refer my self.

As touching the eternity of any kind of Motion, especially even of that of the Heavenly Bodies, I shall say somewhat briefly in this place which will be easily reducible to any other of the motions in the World, as namely the motions of Generation, Corruption or Alteration, all which are in some respect but the effects of Local motion of one kind or another.

And there seem to be two special Reasons even from the intrinsecal nature of the things that encounter the possibility of an eternal successive duration in them: The first concludes against all imaginable eternity of Motion of the Heavenly Bodies, whether independent or dependent upon Almighty God; the latter indeed principally concludes against the possibility of the created or dependent eternity thereof. And they are these:

1. If the circular motion of the Sun or Heavens were eternal, then there must be two circulations of the Heavens immediately succeeding on the other Eternal; the consequence whereof yet would be, That the one of those circulations would be necessarily before the other by the space of twenty four Hours, which would be impossible, for then the next succeeding circulation would not be so ancient as the first, and yet both should be eternal, which is impossible and repugnant.

This Reason a late Philosopher hath made use of in substance, but in a different method, namely, That if the circular Motion of the Heavens were eternal, then of necessity there must be granted some one circulation

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of the Heaven to be distant from us by an interposition of infinite Circulations: This consequence must needs be true, and yet it would perfectly destroy infinite Circulation of the Heaven; for it would necessarily from hence follow that all the intermediate Circulations were finite, and determinate on both ends; at this end with that Circulation that is presently in motion, and *à parte ante* with that Circulation that is supposed to be infinitely distant from us, which excludes any possibility of infinitude in Motions intermediate. And if it be said that the first of these intermediate Circulations is likewise infinitely distant from this, then it should be infinitely distant and yet the next precedent Circulation should be before it, which destroys the very nature and reason of infinitude. And if it shall be said that that next succeeding Circulation after that which is so supposed infinitely distant from what is now current, is distant from us by a finite interval, and not infinitely, then that one Circulation which preceded it, and must necessarily be like ours, and consequently abtolved in the space of twenty four Hours, shall by its accession to a finite number of Circulations, or consequently to a finite interval of duration, make up an infinite succession and an infinite duration; the addition of that one antecedent Circulation shall make the intermediate finite Circulations infinite, and the addition of a period of twenty four Hours (the uttermost extent of one Circulation) shall make a finite time or interval infinite, which are intolerable absurdities, and yet necessary consequences upon the supposition of the eternal Motion of the Heaven or Sun; or if you will, of the Earth, as the *Copernicans* will have it.

2. A second Reason is this, which though it be but a different and farther explication of the former, yet it renders it clearer and in more perspicuous terms, which is this: Whatsoever once was and now is not, as it is now past, so it was once present, and before it was so present was future: Take it in the former Instance; It is not possible that there could have been any Revolution of the Heaven that is now past, but that the same was once present; as whatsoever now is, is necessarily whiles it is so; whatsoever hath been, was necessarily whiles it was; *in prateritis non est contingentia*.

The consequent whereof is, that whiles it is impossible but that the remotest Revolution of the Heaven once was present, That Revolution when present, was necessarily the *Epoche*, the *terminus* from whence all other succeeding Revolutions took the course or journey; and yet this remotest Revolution could not be of a greater period than 24 Hours, which was not sufficient to make it eternal, yet all the succeeding Revolutions took their rise and journey from it; and must needs be closed within two bounds, namely, the most remote and the present Revolution.

Again, if it be impossible that there can be any Revolution now past which was not once present; then the most remote was once present, and at that time when it was so present had none before it or more ancient than it; and that Revolution being such as now we have, must necessarily have its beginning within the space of twenty four Hours, before which it was not, and consequently when it was so present could not be eternal; and consequently all the Revolutions that succeeded came after it, was terminated by it, and by such a Revolution that when it was

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was present had a beginning and could not be eternal, nor consequently all the Revolutions that hapned since that first, which are *utrinque clausa*, namely, with that which is remotest, and with this that now is in motion.

3. Whatsoever bodily Being is created eternally, must necessarily be created in some certain *situs* or disposition, and must of necessity remain an eternal duration in that *situs* or disposition wherein it was so created. For instance, if we should suppose the Sun created eternally, we must necessarily suppose 1. That he was created in some determinate *ubi* or *situs*, for that is undispensably necessary to every created individual Body; and therefore if he were eternally created we must suppose him created *in tali vel tali plaga mundi*, suppose we to be above our Horizon, or below it. 2. It must necessarily be, that in that *ubi* where he was so created, that he must by an eternal space or duration abide in that *situs* or *ubi* where he was so created; and he must (it is true) have a disposition to motion, but he must be *in dispositione tantum ad motum* by an infinite tract of duration: For if we shall suppose that he staid in his *situs* of his Creation but an hour, or a day, or a moment, and then set out to move, that moment of his existence before he moved would terminate and bound the duration of his motion, which could not be eternal because it had an antecedent moment before it, which secludes it from eternity: Neither can we suppose him to be eternally created in motion, for he must be before he can move, and must also have a *terminus motus à quo*. But suppose we might imagin him to be in the very first eternal imaginable instant of his eternal being put into motion, yet the *terminus* of that motion must necessarily be that *ubi* and *situs* wherein he was created, which would necessarily be the antecedent circumscription of the line of his motion; and if the line of his motion hath necessarily a *terminus* of its inception, it must of necessity have a *terminus* of its duration, and cannot be infinite in duration *à parte ante*: And as to this purpose there will be no manner of difference between a circular motion and a streight motion, if we could suppose in the vast abyss of imaginary infinite space there were some one determinate point from whence a direct local motion should be supposed to begin its motion, the line that such a streight motion should make would be finite, and consequently an infinite time could not possibly be consumed in such a motion. And upon the same account if the Sun were created in any point of the Hemisphere, and then presently took his start or motion to the West, and so onward in his circular journey, it were impossible that the line of that motion should be of an infinite extension, but being drawn out at length like a clew of thred wound off from a bottom, it would be of a finite extension, and consequently the period of that motion could never be infinite. For *Aristotle* tells us truly, that an infinite time can never be drawn out in a finite motion, nor an infinite motion be absolved in a finite time: This Reason the acute and judicious *Suarez*, 2. *Metaph. disp. 29. sect. 1.* borrows from *Antonius Ruvio*, and though according to the opinion of *Aquinas* he be a stiff assertor of the possibility of the Eternal Creation of the World, *ibid. disp. 20.* yet he frankly confesseth and maintaineth that Motion is of such a nature as is not capable of an eternal duration *à parte ante*; and thereupon concludes, *Propter hanc ergo causam existimo*
M *Eternita-*

Æternitatem repugnare Motui, & Motum includere repugnantiam cum quadam immutabilitate, quam includit Æternitas: Ideoque de facto motum non solum non esse æternum, verum neque esse posse. Igitur ex motu æterno colligi non potest Motor æternus vel immaterialis.

And now let any Man consider what is gained by the Supposition of an Eternity of the Bulk or Carcass of the World, when yet it cannot hold with it in consort an Eternity of Motion: 1. That we must separate from Bodies that which is most connatural to them, especially the Heavenly Bodies, and this for an eternal period, 'till put in motion within the limits of time. 2. We shall hereby separate from the Body of the Universe for an eternal period that which renders it most useful, and most beautiful: To suppose an Eternal World; and yet eternally destitute of Motion, were to suppose the whole Universe destitute of Life, and all Vegetables, Animals; Meteors, the Ebbing and Flowing of the Sea, the whole Furniture at least of this inferiour World, to be none but dead, lifeless, stupid Beings, for such it certainly would be, if the Heavenly Bodies should be destitute of their Motion.

And therefore it seems wholly disagreeing to Reason, that the World should be eternal, when it is evident, that Motion (which as *Aristotle* truly tells us is, *Vita quædam omnium mobilium*) cannot be eternal, and so there should be an eternal useless Carcass of a World from all Eternity, without that life of it, its Motion.

And on the other side, it seems more consonant to Reason, that the Fabrick of the World did not long antecede its Motion, and that since Motion is not, cannot be eternal, so neither is the Fabrick of the World, but they both began at least very neer together, and the World was not made from Eternity to lye fallow and uninhabited during that infinite abyss of its pre-existence to its first putting forth into any Motion, for such it must be, if destitute of Motion. And consequently the evincing of an impossibility of an eternal successive Motion, doth not only evince, that the whole World, with all its considerable Appendices, was not eternal, but doth with great evidence enforce, that the great Integrals of the World it self were not eternal, which had been imperfect without Motion.

And this doth salve two Objections at once, viz. 1. That drawn from Gods Omnipotence, that could have made the World eternal, if He pleased. The Answer is: That whatever could have been done in reference to the Rest of the World, yet as in reference to successive Motion the same could not have been made eternal, and yet without derogation to the Divine Power or Omnipotence, but because the nature of the thing could not sustain or bear such a duration.

And likewise this answers the Argument for the Eternity of the World, drawn from the Divine Benignity and Goodness, whereby He is supposed to be under a kind of intrinsick necessity of doing all the good He could, and consequently to make the World eternally. I answer, 1. That as before the World, in its complement and perfection with the advantage of Motion, though there was no determinate time, point, or period, but God might have made it sooner if He had pleased, yet (with all due reverence to His Majesty) it could not have been in its complement and perfection eternal, because its successive Motion could not be eternal, nor

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consequently all that glory, beauty and usefulness which accrues to the Universe by that successive Motion; 2. That although the Divine Will be determined by the Divine Perfection necessarily to will his own immense Goodness, yet he is not determined by his own Benignity necessarily to will any thing without himself; his own essential Goodness he wills, and that necessarily, and *ad ultimum posse*; but his Benignity is measured out *ad beneplacitum voluntatis*, and not by an absolute necessity *ad ultimum posse*: And therefore although it were admitted that he could have eternally made the World, or made more Worlds or better Worlds, yet he was not bound to it, because the emanations of his Benignity are not necessary, but governed in their extent and measure *juxta voluntatis beneplacitum*. 3. And upon the same account also, though he could have made the World sooner than he made it, yet he was not bound to it, but to make it when and how he pleased; though all his Works carry the impression of transcendent Wisdom and Goodness.

And therefore as these Reasons seem strongly to conclude 1. Against the very possibility of an eternal duration of those things that gave the principal ornament, beauty and usefulness to the Universe, namely, Variety and Succession of Individuals and *Species*, and Motion, so they do, at least *de facto*, evidence that if the rest of the Universe were able to sustain an eternal duration, yet they did not, because these would be very defective without those that cannot hold that state of Eternity with them.

2. Against the truth of that Reason and Assertion, That Divine Goodness did intrinsically necessitate his Will to create things in their best state from Eternity, since it seems evident that the condition and state of many things in the Universe that give it much of its usefulness, perfection and beauty, namely Motion, and Succession of Generations and Corruptions, of Animals, Vegetables and Men, are impossible to be as ancient as that intrinsic Goodness of the Divine Nature, which is as eternal as his own most perfect being.

3. I come now to the third Reason against the Eternity of considerable parts of the World, which is this; Sublunary Bodies, whether simple or mixt, are by the necessity of their nature subject to alteration and corruption: But whatsoever is subject thus to alteration or corruption, is incapable of sustaining an eternal duration *à parte ante*, and consequently sublunary Bodies are not capable of such an Eternity.

The first of these Propositions, namely, That all sublunary Bodies are subject necessarily to alteration and corruption; This naturally happens to sublunary Bodies upon both or one of these accounts, 1. From an intrinsic Cause, which is principally seen in mixt Bodies, in which the band and ligament between Matter and Form, nor of the parts of Matter themselves is not so strict and tenacious, but that they must necessarily in process of time fall asunder. Besides, by the continual contest between those contrary qualities bound up together in them, there do arise uncessant alterations, and at last final dissolution of them, even from within themselves 2. From extrinsic Causes; For the very necessary compoſure and position of things in the World is such, that there is a vicinity between Agents and Patients, and contrary dissenting active Qualities, that the one incessantly invades the other, and alters,

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changes, intends, remits and corrupts the other; which perpetual *lucta* is seen daily not only in the mixed and compounded Bodies, but even in the more simple elementary Bodies, which daily invade, change, alter, and corrupt one the other according to their various degrees of activity, contrariety and vicinity each to other.

And if the World had been eternal, we must suppose it eternally constituted of such natures so placed and disposed in such situation and constitution as now they stand, or otherwise, we do not reason *ad idem*, the World otherwise should have been of another make, constitution and position than now it is; things corruptible must have been incorruptible, and the vicinity, activity, contrariety and position of things and their natures and qualities must otherwise have been quite different, and so our debate would be transferred quite to another World of another nature and constitution from that touching whose Eternity we now dispute.

The second Proposition is this, That whatsoever is subject to such alteration or corruption cannot possibly be eternal, at least unless we shall wholly remove from it by an infinite duration that corruption or alteration to which it is thus necessarily subject, and so make it another thing than what indeed it is.

And because the due and clear explication of this Truth renders the Assertion plain in it self, I shall distinctly examin it; and because we have supposed that the corruption of things corruptible, and the alteration of things alterable depends, as before, upon a double Principle, *viz.* That intrinsecal defectibility of the connexion or union of the parts of things corporeal, which is rooted in the very Nature of the things themselves; and 2. From the vicinity of other contrary active Principles endued with contrary active Qualities which mutually invade one another; which position (considering the Frame and Constitution at least of this inferior World, is absolutely necessary, unless we shall make the World another thing, and of another Fabrick than what it is) as the moisture of the Water is contiguous to the dryness of the Earth, and the heat of the Sun is contiguous to the coldness and moisture of the Water, and cannot be otherwise in the Constitution of the World as now it stands, and consequently one must necessarily work an alteration in the other: I shall therefore pursue the same method, and first consider such Bodies as seem to have an intrinsic principle of alteration or corruption from the dissolubility of their parts, and the coadunion of several particles endued with contrary and destructive qualities each to other; or such as at least tend to a gradual alteration. And secondly, I shall consider such parts of the Universe as do mutually act one upon another, and thereby induce corruption or alteration of one by another, according to the prevalency and activity of the one or the other.

But before I come to either of the particulars I shall premise some things which will be of use in all that follows, *viz.* 1. That precedaneous to all Generation of any material Being, according to the course of Nature which we see, there must be a gradual preparation and alteration of the matter before there is a complete generation of any thing: This we see in the casual production of Insects and Vegetables, and in the natural production of Minerals or Meteors, and in the regular production

duction of Animals and Men. 2. That in things which yet hold their essential consistency, yet there are very many alterations, not only accidental, as where things are rarified or condensed, or made hot from being cold, or cold from being hot, but also such as seems connatural to the *species*: Thus we see in a Man, first he is a weak little Infant, then a Youth, then a Man, then he becomes an Old Man, and yet continues still a Man till his dissolution; and to these various states of his Age there seem to be various alterations accommodate, as difference in stature, bigness, strength, activity, understanding; and the same is observable in proportion to their capacities in Animals, Vegetables, Minerals, and the like. 3. That these alterations are necessarily successive and gradual, whether they be such as are preparative to Generation or Corruption of Beings, or such as consist with the Existence of the being they have (as those alterations incident to the state of things in their consistency) yet they are not instantaneous, but successive and gradual; nay those very alterations that are wrought in things by an external contrary Agent, yet they are not in a moment, but gradual and successive, which is partly by reason of the resistance in the Patient, and partly because the Agent works upon the Patient by a certain local motion of it self or parts, or of its virtue and activity, which cannot be instantaneous and *tota simul*, but gradual and successive: Thus the Sun reduceth the Clay to its final degree of hardness, and the Wax to its final degree of softness successively and gradually; the Fire assimilates the Stubble, and converts it into Fire, not in an instant but by degrees, though sooner or slower according to the vicinity of each, and the precedaneous preparations of congruity of the Stubble to be wrought upon by the Fire. 4. That these alterations that are thus successive and gradual, as they cannot be perfectly instantaneous, so it is impossible they can last or continue for an infinite or eternal duration. The reason is, because as they must have an inception of their motion, so they must of necessity arrive to their complement within the compass of time, and can never hold out in their progress to an infinite duration: Let us suppose the Fire and the Stubble to have been created eternally contiguous one to another, the Fire could never have held an infinite duration in consuming that Stubble, for then it could never have been consumed; for that which had been burning an infinite time could never be burnt, no not so much as any part of it; for if it had burned part after part, the whole must needs be absorbed in a portion of time: neither need we labour this, for we see that the Fire consumes Stubble or other combustible matter in a short portion of time; and since if we talk of an Eternity of the World, or of any thing in it, we must in common reason suppose it to be such as now it is, we must necessarily allow the like properties, activities, natures and operations to things as we find them now have. And since we see that all bodily alterations are effected in certain portions of measured duration or time, we cannot upon any reasonable account allow to those alterations an infinite antecedent duration; but if any Body or Thing in that imaginary period of Eternity allotted to it had any such alterations as we see now are incident to them, they could not possibly be of an eternal duration no more than they are now, for that were wholly to alter the state of the World and of those things that are in it.

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5. And consequently whatsoever thing it is that hath or can have an eternal being *à parte ante*, must persist in that eternal being without any change, alteration or corruption; or if it have any alteration or corruption, the first alteration, change or corruption that it can have, must be in time, and after an eternal, unchanged, unaltered estate precedaneous to such alteration; for if we should suppose it to be eternal, then of necessity that alteration or corruption which it hath, must be subsequent to that eternal state which it had before it was altered or corrupted, and consequently must have had a persistence in that unaltered, uncorrupted estate infinite Ages before such alteration or corruption: If it were eternally altered, or eternally corrupted, then it was eternally, and eternally was not; it was eternally without alteration, and eternally altered: The thing must be before it can be altered or corrupted, and consequently its alteration and corruption must be subsequent and after that existence which it had unaltered or uncorrupted; and consequently the alteration and corruption must needs be younger than that estate which it had unaltered or uncorrupted, and consequently cannot be eternal.

Again, we cannot by any means suppose that any commencement of alteration in the first moment or degree of it could be coeternal to it; for (as is before evident) then that alteration would of necessity be perfected within the like portion of time as the like alteration is perfected: Now suppose it were a corruptive alteration, it may be that is perfected in the space of three or six or months from its first inception, the consequence whereof would be, that the like alteration of that eternal alterable or corruptible Body, if it began with the thing it self, would be perfected in the like space, *viz.* six months: And should that perfected alteration fall within the compass of Eternity, or out of it? If it should, then the thing was eternally unaltered and uncorrupted, and was yet eternally altered or corrupted; was eternally, and yet that Eternity was but a space of six months, for so long only it had its being uncorrupted: If the alteration or corruption was not eternally perfected, but perfected in time, then an addition of six months the more of that alteration added unto a finite duration or time succeeding after such alteration, should make it infinite and eternal. 6. And yet the supposition of an eternal state of any corruptible or alterable Being, in a state of incorruption or unalteration, were utterly to change the very nature of things; and to give them an eternal state, we must be forced to gratifie them with a nature not only preter-natural to what they had, but quite of a distinct nature: For the purpose, That man that is even upon the intrinsic constitution of his nature dissolvable, must by being in an eternal duration continue immortal, unalterable, and not for a year, or a million or two of years, but for an eternal duration antecedent to his dissolution: Nay, it is inconceivable how any such man that hath stood the shock of an eternal duration without corruption or alteration, should after be corrupted or altered: from any internal principle of corruption or alteration it could not be, for then he could never have ridden out an eternal period; but it must be, if at all, by the power of a more powerful Being than himself, that must violently *de novo* introduce his change and dissolution. The Supposition therefore of an eternal existence of any thing corruptible, is to alter their very nature, and make that to be incor-

incorruptible which is corruptible. And to suppose that imaginary eternal state of things corruptible, to be utterly of another nature, kind, and condition than what we now see them to be, which is an unreasonable Supposition, unworthy of an admirer of Nature, which should be constant in his Supposition, and yet is the necessary consequence of the granting of an Eternity of corruptible Beings. But particular Instances of the several kinds of alterations and corruptions of things either *ab intrinseco* or *ab extrinseco*, will make the thing more plain.

1. Touching things alterable or corruptible from an intrinsecal Cause, as Vegetables, Animals, Men. If any Vegetables were eternal, as an Oak, or an Elm, then some Oak was eternal, if it were, then if it were of the same nature as Oaks are now, it was first a slender Plant, and then gradually grew to his just dimensions, perhaps in two hundred years, and in about two hundred years more decayed, and was corrupted to dust; so that his duration exceeded not four hundred years, and in that period of time he grew perchance from an inch in diameter to six foot in diameter, and from a foot high to a hundred foot high: These alterations and augmentations were gradual and successive; he was not in the same moment one inch and six foot in the diameter, nor in the same moment was a Plant and dissolved and turned to dust; and yet if this Oak were eternal in all this portion of his duration, he must be eternally one inch in diameter, and yet eternally six foot in diameter; eternally one foot high, and yet eternally a hundred foot high, he must have eternally been a Plant, eternally a Tree, and yet eternally corrupted; his duration must have lasted but four hundred years, and yet he must be eternal, though his first being were but four hundred years before utter dissolution: And yet it is most certain that this Tree could not have been eternal; for being but of four hundred years standing, somewhat must have anteceded that period, and so somewhat more ancient than what had been eternal.

But let us suppose this eternal Oak had not been bound to the laws of duration of other Oaks, but to have lasted eternally, and probably would have lasted to this day, had not external force either violently or accidentally corrupted or destroyed him; yet did this Oak ever grow bigger or taller than what he once was, or did he put off his leaves in the Winter, and gather others in the Spring? Did he put forth new branches, which before he had not? If he did none of these things, surely he was not a vegetable Being, he was not like those Oaks that are now growing, but quite of another nature, and we have nothing to do with him, he is a perfect stranger to this World: If it did grow from lesser to greater, and did put forth new branches, certainly the increment could not be eternal, but must be done gradually and successively, and from one degree of bigness to another, and since that augmentation could never be of an infinite procedure, but being successive, we must come to the beginning of that increase within the measure of such a portion of time as we now find sufficient for such a production or increase, it may be two or three hundred years, which being but a finite duration can never be eternal: And this necessary Supposition of a successive alteration or increase, utterly destroys the possibility of an eternal duration in any thing capable of such alterations; 1. Because it necessarily supposeth some-

somewhat precedent to that state wherein it is, namely, a precedent alteration of it, whereby it is now become what it now is, and what before it was not; so that it had somewhat before its present state which stateth it to be what it now is, namely, that alteration or augmentation which so preceded its present state, and consequently that present state wherein it is, could not be eternal, for it had somewhat before it, 2. Because that very alteration that anteceded that state which it hath cannot possibly be eternal, but must be perfected within a certain portion of time destined to it, and consequently must have beginning within the compass of a determinate time, and cannot be eternally moving to its accomplishment.

And as this Instance gives the impossibility of an eternal Existence in any thing essentially alterable or corruptible, so it would be possibly more conspicuous in the Contemplation of the Humane Nature: If we should suppose a Man to have been eternal, Was that Man ever an *Embryo*, a Child, a Youth, a ripe Aged Man? Did he grow from a smaller stature to a greater, had he vicissitudes of temperaments and distempers, did he eat, digest, &c. If he did not, then those eternal Men were not of the same Make with the Men that are now, but quite another thing, which we know not what it was, or where to find it: But if he had all those changes he could not be eternal, he should be eternally a Child and eternally a Man, eternally young and eternally old, yea eternally living and yet eternally dead; for all these must fall within the compass of Eternity.

2. But let us now consider how the Case falls out in relation to alterations and corruptions occasioned *ab extrinseco*, and we shall find, 1. That as the World is framed, and as those that suppose it eternal, must suppose it to have been always so framed, there must necessarily be incessant mutations, alterations, generations, and corruptions by the invasion and juxtaposition of contrary Natures, Agents, Patients, Qualities, Motions; the Earth naturally dry is moistened by the vicinity of the Water, and again dried by the heat of the Sun; the Earth obstructs the fluidity of the Water by mingling its grosser parts with it; all things as it were in continual motion and agitation, and mutual preying as it were one upon another; which as necessarily occasioneth mutations, alterations, generations and corruptions, as the very intrinsecal dissolubility of the natures of mixt Bodies. 2. And as we find this now, so we must suppose that this hath been always so since the World had a being; unless we shall suppose, as I have often said, another kind of World than what we see: And although we are not acquainted with the state of things out of, or beyond this sublunary World, in which we see this vicissitude of alterations, yet whether there may not be some such mutations in the Ethereal World, we know not; but there may be such, though we cannot certainly know them. 3. And yet it is most certain, that it is impossible that any thing that is capable of these mutations and changes can be eternally under them, but must of necessity, if it were eternal, consist in such a state of fixedness and permanency that were not obnoxious to these changes. 4. And since it is not possible, for the inferior World at least, to be *de facto* one moment of time without these changes and variations, alterations, generations and corruptions; which,

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as before, are not at all consistent with an eternal duration *à parte ante*, of that that is so subject to changes, we have just reason to deny and disesteem this imaginary Eternity can belong at least to the sublunary World. The late Author of a Book *De Ætate Mundi* hath given us an Instance herein, that if it would hold, we need not go farther; namely, That the great Rocks in the Sea are yet many of them eminently visible to this day, and yet daily experience shews us that those Rocks are gradually diminished by the beating of the Sea against them; which had they been so dealt with from Eternity, though they lost but one grain in a million of millions of years, they would not have been, but would have been consumed an indefinite time long since elapsed: But the Supposition fails, because it may be that these Rocks have at least vicissitudes of increase and diminution by the very alluvion of the Sea, 'or, which seems far more easily supposed, that the Earth and Seas might notwithstanding have been eternal, but yet the Sea might not have kept the same Channel where these Rocks now are, from eternity, but gained it in time; the Ancients telling us that the great *Atlantick* Sea was for the most part of it anciently a Continent, or at least a great Island as big as *Europe* and *Asia*, and after swallowed up and corroded into that vast Sea called the *Atlantick* Ocean, leaving behind it only those reliques now called the *Canary* Islands: I will therefore take my Instance in some other things.

1. It is evident that divers Minerals are bred in the Earth from an earthy consistence, by the heat of the Sun and other concurrent causes successively, as may appear to any man's observation touching Coals, Rocks, especially of Stone, which from a sandy kind of Earth gradually concoct into Free-stone, when they were before Earth, as may be seen in many Quarries by those pieces of unconcocted Earth not yet perfectly digested into Stone: If the Body of the Earth were eternal, either these concretions were also as eternal as the Earth gradually and successively digested into these concretions, or else the Earth must have had an eternal permanency in that state of simple natural Earth, without any such concretions or alterations in it: If we shall say the latter, we make the Earth another thing than what in truth it now is, which by the aid of the Sun hath these concretions and alterations even by a kind of necessity of Nature wrought in it: And besides, if in that portion of eternal duration wherein the Earth and Sun were in that very same natural state wherein they now are; the one active, piercing, and digestive by its heat; the other passive, receptive, and stored with materials for such a production. What should hinder but that there should be such production gradually and successively prepared, and at length generated by the conjunction of these active and passive Principles.

And yet if it be duly considered, supposing the Sun and the Earth to be both eternal, the Earth and its parts must of necessity persist in an eternal unchangeable state in that period of Eternity antecedent to the first alteration thereof to any such production: For if the production of these Minerals should be eternal, and consequently infinitely distant from us, the productions must be eternal, and yet there must necessarily antecede those productions a successive and gradual alteration of those parts of the Earth which were to be moulded in succession of time to Coals,

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or Stone, or Minerals: And though perchance that alteration might take up a long preparation and disposition, yet it could not be eternal, but must be absolved, though in a long, yet in finite time; and consequently the Earth, if eternal, must be before that preparation or alteration, and must have continued in an eternal state, destitute of such alteration or preparation, and in an eternal disposition thereunto; which yet had been to suppose the Earth in that eternal period quite destitute of that mutation that upon the Supposition of the agency of the Sun had been connatural to it. So that upon the whole matter it seems plain, That neither successive natural Beings, nor corporeal Beings, that are corruptible or necessarily subject to alteration, either from an intrinsic Principle or from an extrinsic natural Cause necessarily contiguous or approximate to it in situation or virtue, cannot be eternal; which will deprive the greatest part of the sublunary World at least of that possibility, and must leave only such parts of the visible Universe as are incorruptible, unalterable, and unsuccessive (if any such be) capable of this privilege of the very possibility of an eternal existence *à parte ante*: And consequently the whole Universe cannot be eternal.

It remains then, they who assert the Eternity of the World must content themselves with such parts thereof as are capable of that duration. And accordingly there seem to have been three Opinions, which although they assume not the Assertion of the Eternity of the whole World, yet they endeavour to come as near to it as they can; which I shall distinctly set down and examin.

1. The first Opinion is of such, that although they suppose the sublunary World not to be eternal in its Frame and Constitution, yet they assert the Matter thereof eternal, though undigested, and not perfected till afterwards: But yet the Celestial or Ethereal World, the Stars and Planets they will have eternal, and that these were used as the great Engins in the subsequent formation of the inferior or sublunary World.

Touching the Eternity of Matter, whether Celestial or Sublunary, I mean not in this place to meddle; but as to the Supposition of the eternal existence of the Celestial or Ethereal World, this shall be all I shall say: 1. We are not acquainted with the Constitution of them, and whether they are in their nature corruptible or subject to alterations; if they are such, they are as equally incapable of an eternal existence as the sublunary World. 2. But suppose them to have a radical incorruptibility and immutability in their natures, yet their Motion cannot be eternal upon the Reasons before given. 3. And therefore though they are a goodly Fabrick, yet they are not in a state of Permanency of so great use, beauty and perfection, as in a state of Motion, which is a great part of their excellency, and that which accommodates the several parts thereof one to another, and all to the advantage and good of the inferior World; and therefore it seems not probable that they should have an eternal existence in Rest and Permanence, and afterwards in a process or period of time be endued with that which is their great perfection, namely their Motion, which neither was nor could be eternal: It rather seems more agreeable to the nature of the thing, and to the Divine Wisdom, whose Works are full of wisdom, excellence, and perfection, to respite the Fabrick till it were capable of its most useful and beautiful perfection, namely

namely Motion; which must either be natural to them, and then it were marvellous they should yet enjoy an infinite duration destitute of what was natural to them, and yet not capable to be enjoyed by them in an eternal duration *à parte ante*: Or if it were adventitious from the immediate power of God, or by the instrumentality of Intelligences, yet surely it was foreseen by him that knew all his Works from the beginning: and therefore was not likely to ordain an eternal consistence of those Bodies to which he intended to give Motion, their great perfection, not sooner than time: And therefore though the Heavenly Bodies were admitted capable of an eternal Permanency, yet it is not probable they had their Being before, or at least not so long before their Motion.

2. The second Opinion is of those that although they allow not the *Mundus aspectabilis* to be eternal, yet do suppose that besides that Eternal Generation of the Second, and the Eternal Procession of the Third Person of the Sacred Trinity, Almighty God eternally created a World of Intelligences, whereunto he might and did communicate the emanations of his Bounty and Benignity, and that in the beginning of Time he Created this *Mundus aspectabilis* which we see, for the farther communication of his Bounty and Goodness; and this they suppose more congenious and suitable to the Order of things, and of his own Goodness and the communication thereof, than to suppose the Creation of a material World either eternally or *quasi per saltum*, or at the same time with the Creation of those purer Beings, who had a greater similitude and proximity to his own most Divine and Spiritual Nature. This though it might possibly be so, yet we are without any sufficient Evidence that it was so, and such Conjectures of things without our knowledge, or those *media* that we are capable to exercise for the acquiescence thereof, are uncertain and endless: Upon such conjectural Congruities the *Platonists* had their *Dii ex Deo*, the *Manichees* their *Æones*, and *Origen* his *Mundus Animarum*: and therefore I leave it as a Conjecture.

3. The third Opinion is of those who though they suppose the World not to be eternal, and perchance think with reason enough that the duration of Eternity *à parte ante* is such as is only competent to the Eternal God, and not communicable to any Created Being, at least such as is in its own nature either corruptible, alterable, or compounded: yet to the end that they may carry the Communication of the Divine Goodness and Benignity as far as is possible, are not contented to suppose the World to be sempiternal or eternal *à parte post*, or to be as ancient as the Sacred Scriptures inform us, but will carry up the Creation of the World to an immense antiquity, long before Six Thousand years, and thereby they think they do at once salve the large Accounts which the *Babylonians* and *Egyptians* and *Chineses* give of the duration of their own Kingdoms and Histories, and also do, as they think, satisfy at least in a great measure that immense Benignity of the glorious God, whom they declare not only infinitely Good in himself, but necessitated by the perfection of his nature to communicate his Goodness *ad ultimum posse* to things *ad extra*.

This Supposition of theirs seems to be grounded upon two matters

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which are as I think mistakes, or at least do no way appear to be evidently true; namely, 1. That Almighty God, though he be by them admitted a free and intellectual Agent, is necessitated *ab extrinseco* from the Perfection of his nature to do good *ad extra, ad ultimum posse*, which seems untrue. 2. And it seems likewise untrue, that if he were under that intrinsecal necessity, yet he were thereby bound to make the World sooner than we suppose he made it: For as to the fabulous protractions of the age of the World by the *Egyptians* or others, they are uncertain idle Traditions, whereof they have no evidence but from the Impostures of their fabulous Priests.

Touching the first of these, namely, the Intrinsick Necessity of Almighty God to do good *ad extra, ad ultimum posse*, this is that Opinion upon which some have built their *Hypothesis* of the Eternity of the World, and others, driven from that *Hypothesis* by the absurdities that accompany it, build their imagination though not of the Eternity, yet of a prodigious Antiquity of the World. But it seems to me, That although Almighty God being infinitely and essentially Good, is necessarily carried to will and delight in that his own infinite Goodness; yet in his acts of Benignity *ad extra* he is not necessitated by his own Perfection to act *ad ultimum posse*, but although his own Nature be Benign and Bountiful, the seasons, degrees and measures, and other circumstances of its Emanations are guided and directed by the freedom of his own Will.

And the reason thereof is evident, namely, Because all the Good that is without, or that is possibly communicable by him to any thing without him, is finite, and cannot be infinite; and therefore he cannot be carried to it by an infinite desire and intention, and yet such it must be, if it be *ad ultimum posse*.

And if it should be so, there would be infinite absurdities follow which cannot be solved; as for instance, That either this present World must be actually of an infinite extension, or that there must be either infinite Worlds, or at least as many Worlds as is possible to be by the power of Omnipotence. That he hath made some Beings of that perfection, that Omnipotence it self cannot make them one grain perfecter, that they are but in the very next degree of perfection to himself, and cannot have the addition of one grain more to the excellence of their nature; that the Universe is so perfect, *omnibus numeris*, that it is not possible for Omnipotence it self to add to it, no nor to alter it in one jot or tittle, either to make it better or worse, or otherwise than it is; nay he cannot, *pro arbitrio* or dominion make one spire of Grass, or one Fly, or one Worm more or less than he hath made, because he hath made it as good as is possible to make it, and he is under the necessary obligation of his own indispensable Perfection to make and keep it just as he hath made it: That the whole Ocean of Omnipotence and infinite Goodness is already exhausted in the Work of the Universe, and hath nothing of good left that he can do more. These are the consequences of this Position, That the Divine Will is necessitated by the Perfection of his Nature to do good *ad ultimum posse*.

And as these absurdities evince the untruth of the Assertion, so it is apparent in the very Frame of the Universe it self and the integrals thereof, that

that it is untrue: For upon this Supposition admitted, there could not be a disparity in the Natures of things, but every thing should be constituted in that state of being that might be capable of as much of the Divine Beneficence as it were possible for God to communicate. And if it be said that this disparity of things in their degrees of specific or individual perfection contributes to the beauty and convenience of the Universe, which is the primary Object of the Divine Beneficence, this solves not the Objection; because it is possible that many things might have a greater measure of specific Perfection with great advantage to themselves and to the Universe also. But suppose this inequality of degrees of specific or individual Perfection might nevertheless contribute to the advantage of the Universe considered collectively, yet do we not see that daily there are many deficiencies even in individuals, which might have been supplied with exceeding benefit to themselves, and with advantage to the Universe? Are there not among men some that want the integrity of their Limbs, some that want their Senses, Memories, Understandings; some that are extremely vicious, and unjust, and degenerate even from the common Principles of Humanity, many that are diseased and infirm, many good men of short and difficult lives; and might not all these have the integrity of their Bodies and Minds proportionate to the perfection of their specific Nature; be virtuous, sound, long-lived, with advantage to themselves and mankind, and yet without detriment to the Universe? And therefore surely such they would have been, if the glorious God were necessitated to be Beneficent *ad ultimum posse*, unless we should presumptuously assert an impotence in him to rectify these things.

2. But if we should suppose this to be true concerning the Divine Obligation or Necessity, let us now examine what the making of the World a million of years elder than it, is would do in the business.

1. It is true, though we say the World is not, cannot be eternal *à parte ante*, yet it is certain that either upon the nature of the thing or the part of the Almighty and the absolute power of God, without relation to the determination of his Will, there can be no determinate moment, or *tempus signatum imaginarium*, within the bounds or limits (if I may so speak) of antecedent infinite duration, but God might have made it sooner than he made it, and if a year sooner than he made it, he might have made it a thousand years sooner than that.

2. Consequently, if the World be not eternal, it is impossible to assign any time for its making it which answered the *ultimum posse* of Almighty God for the making it, and therefore if we should suppose the World to have been made as many millions of years before it was made, as there have been minutes since it was made, it could not answer the *ultimum posse* of Almighty God, nor answer that imaginary Obligation or Necessity of his nature to do good *ad ultimum posse*, for still it might have been made before any *hora signata*.

3. Consequently the time of the Creation of the World, if it were on this side an eternal period, could neither be determined by his want of Power, nor by his necessitated Benignity *agere ad ultimum posse*, for in that indefinite time within the limits of Eternity no time can be assigned before which he could not have made the World, though it be admitted it could not be eternal.

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4. Consequently there could be nothing that could determin the time or period wherein the World was to have been made, but the absolute *Divinum beneplacitum*; there could be nothing without him to determin it, for nothing was till he made it, nor any thing but his own Will within him that could determin it: for his power and goodness were undetermined to do it sooner or later, since no time could be assigned for the doing of it but it might be done sooner.

And when all is done, his Beneficence, nor the good which the created Beings might receive from that Beneficence, had had no imaginable advance or enlargement, if the World had been created millions of millions of years before it was; and that upon these plain evident Reasons.

1. Because though the World had indeed been at this hour ancients, and lasted longer, if it had been created a million of years sooner, yet the future Eternity or Sempiternity of the World being of all hands admitted, though the Eternity *à parte ante* be denied, there will be a future infinity for the emanation of the Divine Goodness and Beneficence to his Creatures.

2. Considering the nature of the Beings themselves that partake of the Divine Beneficence, there is no advance at all to them by receiving it sooner or later: If *Plato* had been a million of years before he in truth was, and had lived his proportion of eighty years, he had tasted no more of the Divine Beneficence than if he had lived as he did about two thousand years since.

3. Neither is there any difference in respect of the ever-glorious God, for he received no access of happiness by the Creation of the World, nor stood at all in need of it: And if he might be imagined to have received any contentment in it, yet he had an eternal prospect of all things as if they had been really made eternally: And besides, if the World had been myriads of millions of years sooner than it was, yet it was still infinitely short of an eternal duration; Almighty God had been an infinite duration before without that World, which had it been made millions of years before it was, yet had not held any proportion to that infinite duration that preceded.

And whatsoever hath been formerly said against the Eternity of this World doth equally conclude against an eternal being of any World antecedent to this, much more against an eternal succession of infinite Worlds, either of which can have no certainty, nor have any evidence or probability; so that as there cannot be attributed an eternal duration *à parte ante* to any one such supposed pre-existing World, so much less to a succession of Worlds.

The very same Arguments that conclude against the possibility of eternal Motion, or the eternal successions of Generation and Corruption, or of successive Individuals of Mankind do as effectually conclude against an eternal succession of infinite Worlds, and therefore I shall spare the repetition of them.

The Arguments which I have before used are such, as though at the first view they seem intricate, yet they have strength of evidence in them, and such as are accommodate to the nature of the thing which requires Arguments of such a nature; and those Arguments that are
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more experimental and obvious to sense, though they are more easie to be apprehended, yet are more easie to be evaded by the Assertors of the Eternity of the World.

In the before-mentioned Book *De Ætate Mundi* two experimental Arguments are brought against the Eternity of the World, upon which the Author lays some weight.

1. That if the World were eternal, by the continual fall and wearing of Waters all the protuberances of the Earth would infinite Ages since have been levelled, and the Superficies of the Earth readred plain, no Mountains, no Vallies, no inequalities would be therein, but the Superficies thereof would have been as level as the Superficies of the Water.

2. That if this World had been eternal there would have been no Rocks appearing in the Seas above the Water, whereof there are very many visible; for the motion and agitation of the Water doth wear and eat off gradually the roots and other parts thereof, as is visible to our observation; some whereof have their roots so corroded by the Water, that they are ready to fall, and others have apparently by that means been either waisted or decayed, that now they are not extant which in some mens memory have been standing; and if the bredth of a Barley-corn had been consumed in a million of years, there had been nothing of them left.

That these things are true in fact, and that the reason why many of these effects are apparent to us to be as they are, is because that these Rocks and these Protuberances have not been eternal, may be well attributed to that *novitas essendi*, that finite period wherein they have continued, is very probable and evident to him that is satisfied otherwise, that the World had a beginning, I easily grant: But he that asserts the Eternity of the World will find out easie evasions of these sensible Arguments: They will tell us, and with truth enough, that in a great tract even of a finite duration the Earth must have and hath had great mutations: That by the eruption of Bituminous and Sulphureous Vapours, and the firing thereof, these protuberances of Mountains and Hills may be made, and have been made in many parts: That as Warts or Wens growing in our Hands are thrust up by the humors ministred by the extremity of the orifice of some Capillary Vein, and increase; so in the great Body of the Earth such protuberances may be thrust out and gradually increased, though not so easily perceptible in one Age, and by this means there may be a continued supply of what is successively abraded from them by decursion of Waters: That Matter is never lost or annihilated: That what is decayed by that decursion of Waters is in some measure supplied by the terrene *faces* which that Water brings with it: That by continued vicissitudes the Earth is repaired by the insensible descent of Atoms of Matter raised in others places, the Atmosphere being evermore filled with little particles and concretes of Matter which are uncessantly discharged upon the Earth, and as uncessantly again supplied in the Air by the more gross and terrestrial parts of those Vapours that are raised principally from the Sea and watrish places, by means whereof the Water justly pays in process of time what is borrowed from the Earth by a perpetual circulation. And that hence it comes to pass that in process of
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time, even to our view, Channels that were deep and broad, yet by a little time of dryness grow narrow and shallow; that those Mountains, whose chief substance is Rock, become clothed with a superficial Mantle of Earth and Mould; that those places, which were formerly filled with Wood, have buried the fallen Trees three, four, or five foot deep in the ground, by an accretion or cover of Earth, derived to them sometimes by Alluvions or Floods, sometimes and most ordinarily by the descent of those Terrestrial Particles, that are drawn up together with watry Vapours, and either together with those Waters, or after arefaction thereof in the Air, discharged upon the Earth, which doth *reparare deperditum*.

And as to those Rocks in the Sea, they will also tell us, that the vicissitudes of the Sea and Land in a long process of time, much more in an eternal duration, are very many and various: Sometimes that becomes Land which was once Sea, as appears in that part of *Egypt* thorough which *Nilus* runs, long since observed by *Aristotle*, and before him by *Herodotus*; and even in our memory great quantities of Land are now firm and habitable, where Ships anciently rode; and on the other side many parts are become Sea, which were once firm Land: They instance in that traditional vast Island in the *Atlantick Ocean*, which is drowned, and hath left no Remains of it self, but those Islands called the *Canary Islands*; but whether that tradition be true or not, it is very probable, that by particular Inundations the Face and State of the Terrestrial Globe, by great vicissitudes, is much changed. And therefore though they suppose the Terrestrial Globe Eternal, yet the Earth and Water hath not eternally kept the same position or site that now it hath: And therefore the Sea, so often (at least in an Eternal Period) shifting its Channel, hath not eternally washed the same Rocks that now it doth, but after an indeterminate and vast uncertain Period, it may be of ten or twenty thousand years, leaves that Channel which before it had, and gives those Rocks that it wasted opportunity to recruit again, and then perchance after a like vast Period of Time visits the same Channel again; and therefore though the World might be Eternal, the alluvion of the Sea upon those Rocks might not be eternally continued, but interpolated. And though the Earth be not animated with a Sensible Soul, yet it is possible that it may be a great Immortal Vegetable, which may reproduce or increase Rocks or Mountains in various vicissitudes of vast Periods of Duration. And this they think very probably to be collected by the observation of things, and yet if it be not to be proved to be thus, yet thus possibly it may be, which is sufficient to elude the force of those sensible Arguments.

And the truth is, these Solutions do evade the edge and conclusency of those Physical Arguments, and therefore much weight is not to be laid upon them, but upon those of another nature, whereof in the foregoing part of this Chapter.

And there is no way to encounter the Solutions that these Men do, or may give of these two last Arguments, but to have recourse to what hath been before said, namely, that since the Solutions are grounded upon a Supposition of Eternal successive Motions, whereby by vicissitudes of long uncertain Periods of the Decays and Reparations of the inferior World,

World, and by eternal vicissitudes of the translation of the Earth and Seas to several fires either by interpolated, or successive Motions. And since by what hath been before proved, there is an utter impossibility in Reason and Nature of any Eternity *à parte ante* of continued or interpolated Motion, there is likewise an impossibility in Nature that there should be this eternal vicissitude of decays and repairs of the Earth, or shifting of stations between the Earth and the Sea. And thus we are at last driven to resort to those though more obscure yet more concludent Arguments against the Eternity of the World which are mentioned in the beginning of this Chapter, or such as are of the like nature, some whereof will be hereafter farther considered.

Averroes, who was a strong Assertor of the Eternity of the World, insisteth upon a Reason which is witty, but upon a mistake of the nature of eternal duration, *viz.* That if the World were not eternal, but created in some certain *Epocha* or Period, it could never have been at all, because an eternal duration must necessarily have anteceded the first production of the World; and that Supposition excludeth the possibility of such its production, and is contradictory to that supposed *novitas essendi* of the World; for, *infinitum non potest pertransiri*, an infinite duration pre-existing to the Worlds production could never be passed through, so no possible accession to the first existence of the World through the vast compass of a pre-existing infinite duration.

But this reasoning of his is insufficient, because it takes in but a portion of Eternity which is *à parte ante*, whereas that Maxim is to be applied to the full and entire compass of Eternity or Infinity. For if that Argument should hold, neither *Averroes* nor *Plato*, nor any man else could have been born in the World, but must have had an eternal existence upon the very same reason that *Infinitum non potest pertransiri*; for it is certain that as well an infinite duration anteceded the Birth of *Plato* or *Averroes*, as it must do the production of the World if admitted to have *novitas essendi*.

And thus much touching this preparatory Disquisition concerning the Eternity of the World in general.

C A P. IV.

Concerning the Origination of Mankind; and whether the same were Eternal, or had a Beginning.

IF the World it self were not eternal, this Disquisition touching the Eternity of Mankind were needless, because decided in that decision.

Therefore our Inquiry touching the Origination of Mankind, and whether it had or had not a Beginning, is in this place by way of Supposition or Admission, namely, Whether admitting the great Integrals at least of the Universe, the Heavens and Heavenly Bodies, the Elementary World were or at least might be eternal; whether yet Mankind
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were, or might be eternal? And the Question possibly will be much of the same kind, with relation to other at least perfect Animals and Vegetables, yea and all mixed or compound Bodies, for we shall easily find, that admitting those greater Integrals of the World were eternal, yet whatsoever is said against the Eternity of Mankind will bear as hard against the Eternity of perfect Animals, and almost of all compound Bodies.

And although for the more orderly discussion of this Enquiry concerning the Original of Mankind, I must *gratia argumenti*, and according to the Method proposed, admit the Eternity of the great Integrals of the World, yet it will appear upon a due examination to be such an Admission as must in a great measure be contradicted in the debate of what is propounded to be proved, and the particular Reasons against the Eternity of the Humane, Animal, or compounded Bodies will necessarily infer an impossibility, or intollerable absurdity in the thing admitted. For instance:

To suppose an eternal existence of the Heavenly Bodies and of the Elementary Bodies in the site and position in which they are, and to suppose them in an eternal rest and inactivity, and without motion, action, passion, or perfection of the less noble by the more noble, were to suppose them eternally kept in a useless, needless, imperfect state, for an immense, eternal duration, till the first moment of their being put into Motion.

Again, to suppose the Heavenly Bodies and their Motions and Influence, the Fiery Nature dispersed through all the Sublunary World, with its activity and motion; and the Passive Nature of the more passive Elements to have been eternally in the World, and in all that eternal duration not to have produced mixed and compound Bodies in that eternal duration until such a determinate point of it, were a thing strangely repugnant in Nature, unless Almighty God were pleased to uphold their being, and yet suspend their activity for an immense eternal period.

And yet to suppose that the composition of Bodies out of the Elements (by virtue of the activity and influx of Motion, out of Matter that must by that influx be prepared for composition) should be as ancient as those Heavens, or that Motion, that Fiery active Principle that must compound them out of those simpler Bodies out of which they must be compounded (as all this must be, if they are eternal) is as impossible as any thing that can be thought of.

Again, if we should resolve the Eternity of the World into the Divine Will, which being necessitated by his goodness to do all the good he can, even *ad ultimum posse*, and upon that account made the World eternal, it were a strange Supposition to imagin that this God should give the great Integrals of the World an eternal being in eternal rest, without Motion, which is their perfection; or if together with Beings he gave or indeed could give an eternal Motion, it were a strange Supposition that he should suspend the efficacy of that Motion or Activity of the active Principles upon the passive (which both existed) for an infinite space, and then after took off that suspension: And yet farther, Suppose Almighty God did or could give an eternal being to those Active or Passive Natures, and an eternal production of all mixed Bodies for an

an eternal duration but only Mankind (that is the noblest of all sublunary Natures, and apparently the glory of the sublunary World, and the very end of much of what is produced) I say, it is strange that the inferior World should be moved, agitated, and mingled into various mixed Bodies, and thus continue during the immensity of an eternal duration without Mankind in the World, if Almighty God were necessitated by the Benignity of his nature to do the uttermost good he could; and if he could produce Man eternally, there was an equal necessity for him to do it as to produce a Tree or a Stone eternally.

All this tends but to this, That if in the debate of this matter we can find that Man either could not be, or was not eternally produced, we have the same reason to believe that no compound Nature was produced eternally, that no local Motion or corporeal Action was or could be from Eternity; and consequently, that the Heavenly or Elementary Bodies were not from Eternity: The very single clearing of this one thing, that Man was not eternal, breaks the whole *Hypothesis* of the Eternity of the World, cuts asunder all the connexion of evidence that is for it, renders the most considerable perfection of the World, its Motion, Action, and Operation impossible to be eternal, and the existence of the Bulk, Position, and Fabrick thereof (unuseful, imperfect, and deficient without its Motion, Activity, and Operations) improbable to be eternal. So that the Position which I endeavour to prove, namely, the Non-eternity of Mankind, doth in truth destroy the Supposition of the Eternity at least of the inferior World. But this I only subjoin by the way.

Concerning the Origination of Mankind, *Censorinus* in his golden Book *de Die Natali*, cap. 4. gives us the short state of the Question, and the several Authors that hold either way; viz. *Alii, semper homines fuisse, nec unquam nisi ex hominibus natos, atque eorum generi caput exordiumque nullum extitisse; alii, fuisse tempus cum homines non essent, & his ortum aliquando principiumque natura tributum.* Of the former Opinion he reckons *Pythagoras Samius, Ocellus Lucanus, Archytas Tarentinus, Aristotle, Theophrastus, Plato, Xenocrates, Dicaearchus*, and others.

But for the more clear stating of the Inquiry, I shall resume somewhat which hath been before said touching the Question before-going of the Eternity of the World, and some other things I shall add thereunto.

First, it is to be observed, that the Question is not here, Whether the successive Individuals of Mankind may or shall be eternal *à parte post*, perpetuated to everlasting by successive generation. For although whether that shall be or no, depends upon the Divine *Beneplacitum*, yet there is no intrinsecal repugnance *ex parte rei*, but that as the World, and the Generations of Men in it have been thus long continued by the communication of the Divine Influence and Providence, so both the one and the other by the same Influence and Providence may be continued without end: And the reason is, because such a duration, and such a successive multiplication of Individuals imports only a potential infinitude, and such as never shall nor can be completed into an actual infinitude of duration or number: So that as Number is potentially infinite by addition of new parts to it, which yet never shall nor can arise to a number actually infinite, because after every period thereof there still may be a farther accession of a farther period, yet it never will nor can be actually

infinite, because still there will or may be farther additional periods of duration to that which went before.

The Question therefore rests only as to that part of the imaginary Line of the duration of successive Individuals that anteceded any given moment; or, Whether Mankind had any beginning of being, or were eternal or without beginning.

And touching this, there have been some that have affirmed Mankind to be without beginning or eternal; others that have affirmed that Mankind had a beginning.

Touching the latter of these, and the various Conjectures touching the manner of it, I shall write hereafter; at present I shall consider and examine the former.

Again, of those that have affirmed Mankind to be without beginning, and that maintain not only the Eternity of the rest of the World, but also of Mankind; they are of two sorts, *viz.* 1. Such as have affirmed that the successive Generations of Men have been eternal, not only without any beginning, but without any first Parents of Mankind, and that they have been always *geniti ex genitis*. 2. Those that have supposed that there were some first Parents of Mankind, which by a natural and univocal generation multiplied their *Species*, but yet that those first Parents of Mankind were eternal Individuals, having an eternal existence in their individual nature, and in relation to them the rest of Mankind were *geniti ex non genitis*.

As to the former of these Opinions, they seem to be divided into these ensuing Parties or Opinions.

1. Such as think the successive Generations of Men were eternally so, and independent upon any Efficient, and necessarily by the eternal established course of Nature independent upon Almighty God, or any first Efficient of the *Species*.

2. Such as think the successive Generations of Men were eternally so, but dependently upon Almighty God, yet as a necessary Effect produced by Almighty God as a necessary or natural Cause, as the Light is a co-existent Effect of the Sun.

3. Such as think the successive Generations of Men were eternally so, but dependently upon God as an efficient voluntary Cause of them by eternal Creation, yet suppose that Will intrinsically determined to such an eternal Creation of Mankind by the indispensable benignity and goodness of his nature.

4. Such as though they take Almighty God to be under neither of the former necessities, but an Agent purely voluntary, and determining his own Will by it self only, and that deny the eternal successions of humane Generations as to the fact; but yet affirm it possible that Almighty God might, if he pleased, have created the World and Mankind eternally.

Having thus stated the Opinions of the Assertors of the Eternity or Beginning of Humane Generations, I shall pursue this Method; 1. In this Chapter I shall consider the possibility or impossibility of eternal Generations of Mankind, with relation to the four preceding Suppositions that assert it. 2. In the next Chapter I shall consider the possibility or impossibility of any one Man or Woman eternally existing, from whom
Mankind

Mankind had their production by univocal generation. 3. I shall afterwards consider of those evidences of fact and probability, that *de facto* may seem to prove that Mankind had their beginning in time, and the Objections against it. 4. I shall then descend to the Consideration of the various Suppositions of those that have supposed a temporary Origination of Mankind.

At the present therefore I shall propound those Reasons that to me seem conclusive, that although it might for Arguments sake be supposed that some parts of universal Nature, namely, such as are permanent and fixed, and not *in fluxu*, might be eternal, yet it is simply impossible that the Generations of Mankind can be eternal in any of the four foregoing ways.

And before I come to give my Reasons, I shall premise two things.

1. In relation to the four foregoing Opinions, there seems to be this implied in them: 1. The two former do most clearly take up the entire collection of Mankind and the Generations of them to be a meer natural Effect or Work, with this odds, that the former acknowledgeth no Efficient at all; the latter acknowledgeth God the Efficient or first Cause of the eternal World and the Generations of Mankind as a natural Cause: And consequently they must needs hold, that as Man is now generated, so he was eternally so; and as he is now, so he always hath been; and the measure that we take of him now will fit to all those innumerable Men that have been within the vast compass of Eternity: As Man is now a compound Body of the four Elements, so he always was; as he is now nine Months *in utero matris*, such was the method and the *mora* of every Man's production; for the Effect is a natural uniform Effect, whether independent upon God as the Efficient thereof, or dependent upon Him as a Natural Effect. And therefore whatsoever is impossible to be attributed to *Peter*, or *John*, or any other individual Man, is incompatible to every Man in all this infinite Collection within the unlimited extent of Eternity.

But the two latter, though both suppose an eternity of Generations, and though in Eternity there cannot be supposed well a first, yet do what they can, if they suppose a production of Man by eternal Creation, they cannot deliver themselves from these consequences; 1. That there must be some Man or Men that had his or their beginning in some other way than other persons had it, namely by Creation; for although Creation be an instantaneous act of the Divine Will and Power, it must of necessity be terminated in some individual determinate Person, and it cannot be *quid vagum*; the consequence whereof must necessarily be, That if there were an eternal Creation of any Man or Men, they that were thus created had their production (if we may suppose such a production) by a different way from the production of those that had their being by generation; and herein this Supposition of the Origination of Humane Nature differs from the two former Suppositions. 2. And consequently, that if the Creation of Man and of the rest of the World must be in the same point, as I may call it, of Eternity, the rest of the World or any part thereof could not be precedent to the Creation of Man, for then they have lost what they contend for, namely, an eternal Creation of Man: If it were but one imaginable moment after, then the
World

World might indeed have had an eternal existence, but it would be impossible for Man to have had that eternal existence by Creation, unless in the same first imaginary conceivable moment of Eternity (an expression improper enough I confess) Man and the rest of the World were con-created: The consequence whereof, as I before said, is, that those Men must not as the former suppose all Individuals of Mankind had the same natural manner of production, for among the whole Collection some one or more had a supernatural manner of production, namely, by Creation.

2. This being premised concerning the different states of the two former and two latter Opinions, somewhat I shall say in general touching the Reasons I use against all these Suppositions: 1. In general, That that kind of reasoning which reduceth the opposite Conclusion to something that is apparently impossible or absurd, is as much a Demonstration in disaffirmance of any thing that is affirmed as can possibly be in any case, if the Conclusion of the affirming party doth necessarily infer an impossibility or absurdity in the nature of the thing affirmed, it is a Demonstration, *Argumentum cum contradictione conclusionis*; and such will those be which I shall bring. 2. Because the former Suppositions touching the Eternity of Mankind, though they conclude in the same Assertion, yet because they do it by several Suppositions, the Arguments that I shall use shall be of three natures; 1. Such as oppose in special the two first Assertions: 2. Such as especially oppose the two last: 3. Such as in common oppose both.

1. The Argument that I use against the two first Suppositions is this, That it is evident to Experience and the Concessions of those very men, that the Body of a Man and all other compounded Bodies consist not only of Matter antecedent to their Composition, but also of such a Matter as is digested from those more simple Bodies which we call the four Elements, Fire, Air, Water, and Earth: And therefore of necessity, and according to the Principles of these very men, before the existence of any compounded Body there must be of necessity, 1. A pre-existence of those simple Bodies out of which this compounded or mixed Body is compounded: 2. A pre-existence of those more active Principles in Nature that are necessarily pre-requisite to the mixing of these particles of Elementary Bodies, and to the disposition of them to the Union and Constitution of that mixed Body whereinto it is to be formed, namely, the Motions and Influx of the Heavens, the Activity of the fiery Nature, subduing the more passive parts of Matter to the susception of that Form wherein it is to be brought. 3. A *mora*, or due space of time intervening between the first coagulation of Matter and the first instant of the disposing thereof, and the complement thereof in its determinate *Species*, which according to the degree of its specific perfection is sometimes longer, and sometimes shorter; as the Statuary strikes more strokes upon that piece of Marble that is completed into the Statue of *Cæsar* than into the Cube or Pedestal whereon he stands: all these must precede, not only in nature, but in time, before the complement of any compounded Body in its specific constitution. And therefore since all mixed Bodies require necessarily the antecedence of these simple Bodies, this action of the more active Principles, this *mora* in the full disposition and digestion of

of them into their complement of a mixed Being, it is simply necessary that there must be a posteriority in time of every compounded Body, especially the Body of Man, to these more simple Bodies out of which it is constituted, and those successive and gradual actions, and of the more active Nature by which it is disposed and completed in its being: And if once we admit a priority and posteriority, it is impossible the latter can be eternal, because it hath necessarily something that actually preceded it.

2. The Argument against the Eternity of Mankind upon the two latter Suppositions is thus; If Man were eternally created, or con-created with the rest of the World, it is of absolute necessity that that Creation must be terminated in that individual Person that was thus created. For whether Creation be eternal or not eternal, it must necessarily be terminated in some individual Being that is so created. And it is necessary also that that created Person were created in some determinate state, and in a state answerable to the nature of these Men that we now see; and though his Life were longer than ours, yet it would be certain that he lived as we do, one day, one month, one year after another, and that those first created Persons did generate their kind by the conjunction of Sexes, as is done in the World. And therefore if both Sexes were created, yet sooner or later they propagated their kind, as is now done; for though they themselves had a differing manner of production from those that succeeded them, we must conceive that their Constitution was the same, otherwise we shall not so much suppose an eternal Creation of Man, as of something else of a nature essentially differing from Man; which is contrary to the *Hypothesis* it self: And if this be supposed, we shall never deliver our selves from intollerable difficulties and absurdities. For, 1. There would of a necessity be a first Man, which cannot be consistent with the attribution of Eternity to Mankind. Again, 2. That first Man, if created eternally, must needs be distant from us by a less portion of duration after he had lived a year or two, and consequently the duration from his age of two years could not be eternal, for it is short of the period of his Creation by two years, and therefore not eternal; neither could his Creation be eternal, for then the adding of two years to a duration less than infinite should make it infinite, which is absurd and impossible. Again, 3. Was the generation of the first born Man at an infinite distance from us, and eternal, or no? If it were, then it must be of the same antiquity with the Creation of the first Man; and so the first born Man was eternal, and was consequently before he was born; and his Eternity should be ten, twenty, thirty, or forty years short of the Eternity of his Father, yet both eternal; If the Birth of that Man were not eternal, then consequently the Generations of Mankind are neither infinite nor eternal; nay consequently the Creation of the first Man could not be eternal nor an infinite distance from us, for there must necessarily be a determinate Period between the Creation of the first Man and the Birth of the second, and that time must necessarily be finite; and the addition of a finite duration to a finite duration can never make an infinite duration.

Eternity therefore, and a duration actually infinite, cannot be applied to successive Beings: The absurdities and incongruities that arise upon such an application are infinite and incurable, and not to be attempted; Nothing

Nothing but an infinite and indivisible Being is able to sustain an infinite and eternal duration, it will never fit other things, it is too great for them.

3. I now come to consider those Reasons that are applicable indifferently to all the former four Suppositions, and render them all alike vain, absurd, and impossible. I shall resume some of those that I used before against the Supposition of the World's Eternity, and I shall subjoin some others more particularly applicable to the condition of Man.

1. If the successive Generations of Mankind were eternal, then of necessity some one Man among them that preceded us was infinitely distant from us that are now living in point of duration, and infinite numbers of Men have intervened between us and him; this is plain and undeniable.

If so then, if this Man lived to the ordinary age of man, for the purpose, till thirty years old, and then had a Son, and after this he lived to seventy years old, and died: Was this Son of his distant from us an infinite duration, an infinite period of years, or were there infinite Persons that intervened between this Son and us his remote descendants or no? If there were, then the duration from his Father, which was thirty years before his Son, must be thirty years greater than the duration of the Son, and yet the Son as eternally existing as his Father: if not, then thirty years added to the finite duration from the Son to us must make it infinite. There were infinite Persons in the interval between us and his Father, and but finite between us and his Son, and yet the odds between both must be but one. The Father's Death must be eternally distant from us as well as his Birth, and yet his birth seventy years before his death.

2. I shall here also resume the Argument above-given against the Eternity of Motion (which yet is no other but a different kind of application of the Argument last mentioned.) Whatsoever is now past and gone, was most certainly once present; therefore the most remotely distant Man in that vast Period of Eternity was certainly once actually existing, and though he be now past, yet those Attributes and Conceptions that were applicable and affirmable of him when present, are now affirmable and applicable to him though past, (abating only the relations of past and present,) if when he was present and actually existing he could not be eternal, so neither can the addition of all the succeeding myriads of Men by successive procreation make any one day of that Man's age to be infinitely distant from us, for it could not be so when he was present and existing. That Man whereof we speak was such a Man as we are, lived successively as we do, and though possibly he might be longer-lived than us, yet his age was measured by days and years as ours is, and could never be without beginning; and consequently this Man, when existing, was the *Radix* of all that succeeded him, the *terminus claudens* of all his succeeding Generations, which bounds and terminates *à parte ante* all the succeeding Generations; as that Man when present was not eternal, so neither can the addition of successive Generations produce a Line of duration of infinite extent, for that duration is *utrinque clausa*, namely, with that Man which was once present, and that Moment wherein I now write.

3. My

3. My third Argument (which though it be common, is very evident) is this:

It is impossible, *ex natura rei*, that any multitude can be actually infinite, or, (which is all one) so great that there cannot be a greater, or, *multitudo omnium maxima*: But if we should suppose an eternal succession of Generations of Men, or an infinite *Series* of successive individual Men, there would necessarily follow an infinite multitude, or a multitude than which there could not be a greater. And therefore *ex impossibili*, there could not be such an eternal succession of Generations.

The first Proposition, namely, That it is impossible there should be an infinite multitude, or (which is all one) a number actually infinite, is evident by those many contradictions, absurdities, and intollerable incongruities that would follow upon such a Supposition.

It must needs be granted that an infinite multitude is the greatest multitude that can be, there can be no greater; if there can be a greater, then the former was not infinite. For when we have to do with any thing whose very essence, as I may call it, consists in being greatest, there *magis* and *minus* do alter the very essence of the thing, and is identical with *magis* and *minus*: A greater or larger Line, or Superficies, or Body is not *magis linea*, *superficies*, *aut corpus*, than a shorter, narrower, or lesser Line, Superficies, or Body, because they agree in the same common nature, the one as well as the other is a Line, Superficies, or Body. And so of other things.

But when the very Essence of the thing consists in a certain essential difference of *major* or *minor*, there *major* or *minor* vary the kind.

And therefore a Line of two foot long (with relation to that extent) essentially differs from a Line of a foot long, which under that notion is essentially greater or more extended than a Line of a foot long, and it is impossible that a Line of a foot long should be as long as a Line of two foot long, as it is impossible that a part should be equal to the whole. And yet upon the supposition of an infinite multitude, it must necessarily follow that one infinite multitude must be greater than another, and yet both infinite; upon the supposition of infinite Generations of Men, there must have been an infinite multitude of antecedent Individuals and Generations of Men a million of years since, and yet necessarily by the addition of those Individuals that have accrued since in that great Period of a Million of years, there must needs be an accession of a vast number to that multitude that was before, whereby it must necessarily be greater, and yet both supposed infinite, that is, such than which there can be nothing greater. Again, the multitude of the individual Men must be infinite, and yet the multitude of these Mens Eyes must be double to the number of Men, and yet both be infinite. And it is but a vain thing to say, that though the collection of Men be antecedently infinite, yet it is *clausa* and *finita* in the present extreme: as if a Line should be extended infinitely from the point *A*, the Line would be finite at the point *A*, though infinite towards the other part; and the apposition of the accessional number of Men is to that part that is finite: For though the Generations of Men are limited towards the extreme that is next us, or at the Period of a Thousand years before us: and though the apposition of the accessional number be towards this hithermost extreme which is *clausa*
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or *finita*, yet the apposition is to the whole number or multitude, and the collection thereof, and therefore the absurdity of the Supposition of an infinite pre-existing multitude, which is more enlarged by the increase, is equally evident, as if we could suppose an apposition of the number to any other part; for the scope of the Argument is to prove the impossibility of Infinite and Multitude, because no Multitude can be greater than Infinite, yet such would it necessarily be, if we should suppose the multitude now greater than it was a thousand years before: And to render it yet more plain, suppose on the other side we should take the other Operation of Arithmetick, namely, Subduction: If out of that supposed infinite multitude of antecedent Generation, we should by the Operation of the Understanding subduce Ten, whether we subduct that Number of Ten out of the last Generations of Men, or out of Generations a thousand years since, or indeterminately out of the whole Collection, certainly the residue must needs be less by Ten than it was before that Subduction made, and yet still the Quotient must be as great as before, which is still infinite.

Again, the incongruity of the Supposition of an infinite multitude appears in this, that the part must be as infinite as the whole: It is the Instance of *Algarel*, in his Dialogue with *Averroes*; the Number of 4 multiplied into it self produceth the Square Number of 16, and that again multiplied by 4 produceth the Cubick Number of 64. If we should suppose a multitude actually infinite, there must be infinite Roots, and Square and Cubick Numbers, yet of necessity the Root is but the fourth part of the Square, and the sixteenth part of the Cubick Number. The Instance of *Algarel*, in his first Disputation with *Averroes*, which *Averroes* endeavours to answer (but tyres himself in vain to do it) may explain this Consequence: The *Sun* passeth through the Zodiack in one year, *Saturn* passeth through it in thirty years; so that the Revolution of *Saturn* to the Revolution of the *Sun* is as one to thirty, and consequently as one Revolution of *Saturn* contains thirty Revolutions of the *Sun*, so two Revolutions thereof must contain sixty Revolutions of the *Sun*, and so if we should suppose their Revolutions infinite, yet the proportion of the Revolutions must necessarily hold the same, namely, in all the whole Collection, the Number of the *Suns* Revolutions must be thirty times as many as the Number of *Saturns* Revolutions, and consequently the Revolutions of *Saturn* can be no more than one thirtieth part of the Revolutions of the *Sun*, and yet both being supposed infinite, the part, namely, the thirtieth part, must be as great as that whereof it is the thirtieth part, which is impossible.

And this impossibility holds in all other things that have succession or extension, as in quantity, motion, successive duration of things, in their nature successive. But it is more plain and conspicuous in discrete quantity, or different Individuals, which are already measured by Number, without any breaking the continuity that is in things that have continuity, as continued quantity and motion. And therefore they that go about to demonstrate the impossibility of Eternal Motion, *à parte ante*, or infinite extension in a Body, Line, or Superficies, do first break it into parts to measure them, and reduce them to discrete quantity, because the demonstration is more clear and sensible thereby, and therefore they break the

the Measures of Motion into Hours, Days, Years, or such like Measures, or into Periodical Revolutions, and so they break continued Quantity into Palms, Feet, Perches, or the like; because though the repugnancy of Infinitude be equally incompetent to continued or successive Motion, Duration, or continued Quantity, and depends upon the impossibility of the very nature of things successive or extensive with Infinitude, yet that impossibility is more conspicuous in discrete Quantity or Multitude, that ariseth from parts or Individuals already actually distinguished: But the reason of both is the same, especially if broken and divided into real or imaginary parts.

But in the Matter in question, namely, Multitude of successive Men, or successive Generations of Men, there is already a separate, divided, discrete multitude, without any antecedent work of my Understanding, or otherwise, to reduce it into parts or discrete multitude; and so the Instances of the Absurdities that arise by an infinite multitude of Individuals and distinct Generations, is made more plain and open to view: And he that is desirous to prosecute these *Axiomata* of Infinitude and Multitude, let him resort to the Prelections of *Faber*, collected by *Monfuerius*, in his *Metaphysica demonstrativa de infinito*.

And to say the truth, there are none of the Ancients that have any weight in them, that do not agree, that it is impossible that any Quantity, either discrete or continued, should be actually infinite, but only potentially, either by addition of supposed parts to either, or by division of Quantity continued into parts infinitely divisible: But the greater difficulty rests in the Assumption, which is next to be considered.

The second Proposition is this, That if Eternal Generations of Men were admitted, there would be this absurd Consequence, that a multitude given might be actually infinite, which remains to be proved.

The Objection that stands in the way seems to be this, That there is no repugnancy that Multitude might be possibly infinite, for as we may without any inconvenience suppose, that the Generations of Mankind might be sempiternal or eternal, *à parte post*, so there is no inconvenience to suppose them eternal, *à parte ante*, for they never co-exist, but are successive, and so do not constitute any multitude co-existing actually infinite, which is indeed impossible; but there is no implication or repugnancy that there might be an infinite succession of Generations, for they are not together, but one Generation passeth and another succeedeth.

And hence it is they say, that *in moventibus vel causis per se subordinatis*, there cannot be *processus in infinitum*, but we must necessarily fix in a First Mover, between whom and the last Motion or Effect there cannot be a *series* of Infinite Causes for two Reasons: First, Because if there were Infinite Movers or Causes, moving *per se* to the same effect or motion, the motion would be infinite, and so would the time wherein that motion would be absolved, for *infinitus motus non fit in finito tempore*. Secondly, And again, there would be an actual Infinitude of co-existing Causes, which is impossible; and therefore for the purpose, to the production of this generation of an Insect by putrefaction, there is not an infinite *series* of Causes *per se* co-operating to its production, but the *series* of Causes is finite; for the active qualities of the Elements move the Matter, and

the Heat and Influence of the Heavens agitate and move, it may be, the Elementary Body, and the Intelligences move the Heavenly Bodies, and Almighty God the *Primum Movens* moves the Intelligences, and these are finite in number: But in *causis aut moventibus accidentaliter subordinatis* there may be an Infinitude or Eternity, thus the Father may beget the Son, and the Grandfather beget the Father, and so backward to Eternity, and so in the successive productions of all Animals *ex semine*. For though the Individuals successively existing from all Eternity, must needs be infinite, yet they do not coexist, but as one Generation comes another decays, and so make no infinite multitude; and consequently, that all the absurdities that are heaped upon the Supposition of infinite multitude or numbers, conclude nothing to the matter in question, because there is no infinite multitude, because no infinite Individuals or Generations of Mankind coexisting: And though this cannot at all, according to their supposition, any way admit the possibility of an infinitely extended Body, Line, Superficies, or Place, because that would be an actual infinitude in extent; yet as to successive continued things, as successive Motion, as that of the Heavens, and successive Duration, as that of Motion which we call Time, there is nothing of inconvenience according to their Supposition, if they be infinite, eternal; and without beginning; because though they consist of infinite Parts, yet they are not altogether, or co-existing, without which there is no real Multitude.

So that the Question will be hereby reduced to this Point, Whether in this succession of Generations and Individuals of Mankind there be such a Multitude produced that is consistent with Infinitude therein.

I shall not here lay hold of that Supposition of the Immortality of the Souls of the several Individuals of Mankind (which if supposed, would make an infinite multitude actually coexisting of separate Souls) because some of those that maintain the Eternity of Mankind, deny the Immortality of the Soul; others deny the Immortality of the Soul in its individuation, supposing it to resolve into a certain common Element of Souls; and others, as the *Pythagoreans*, though allowing the Immortality of Souls in their individuation, yet suppose a finite number of Souls might supply the infinite Successions of Men by Transmigration of these in their due time: This I lay aside, because it would necessarily occasion other Disputes with Men of those Perswasions.

I do therefore say, That upon the Supposition of the Eternal Succession of the Generations of Men, and the infinite successive Individuals thereby arisen, there doth arise such a Multitude as is equally inconsistent with Infinitude, as if the Individuals had been all coexisting, and that all those foregoing *Alystata* that render any number or multitude of co-existing Individuals impossible to be infinite, render the multitude of successive Individuals impossible to be infinite; abating only the excrecence of infinite coexisting Men to an infinite *moles*, which inconvenience indeed falls not upon the successions of Individuals, some by death and corruption making room for new Successors.

And to make good what I say, I shall deliver these ensuing Conclusions.

1. That as in things that are present, while they actually are, they also necessarily are; so in things that have been, they have been while they were,

were, actually and necessarily : It is as certain that my Father and Grandfather once actually were *in rerum natura*, as it is certain that I now actually am ; for though in things that are yet to come, they are only in possibility, and not in act ; yet in things that have already been, they have been as actually as what now is, *in præteritis non datur possibilitas* ; and it is as certain that what is past, once was actually present and existing, as what now is, is actually present and existing. This I say to prevent that Objection, That things past and things to come are of the same nature in relation to their existence, and that only our manner of apprehension is that which makes things future only *inter possibilia*.

2. That things that once existed and are now past, do as really constitute a multitude (if many) as things that are coexisting : It is as evident that the Grandfather and Father and Son did as really make up a multitude, that is, one man, and one man, and one man, (which multitude we call artificially three, though the Father and Son were both *Posthumi*) as if they all had or did all now exist together ; and it is as true a Predication to say that these were many, as it were in case they had all coexisted, or were now coexisting : And those three Revolutions of the First Moveable that were past three days since, are as really a multitude of Revolutions, as the three Stars that this hour coexist in Heavenly Constellation are a multitude of Stars : and when I speak of a multitude, I mean more than one.

3. That although number, or the digesting things under this or that number, whether Collective, as three, six, nine ; or Ordinal, as the second, third, or fourth, be but an operation of the Understanding only, yet antecedent to any act of the Understanding, and without the help of it, *unum* and *multa*, and of those *multa*, *plura*, or *pauciora* have a reality : *Plato* is one, and *Plato* and *Aristotle* are *multi*, or more than one, and *Plato* and *Aristotle* and *Tully*, are a greater multitude than *Plato* and *Aristotle*, antecedently to any operation of the Understanding.

4. That antecedently to any act of the Understanding, even in those things that have a successive existence, and are not all together, there is as real an unity or multiplicity as in things coexisting. For instance, The Revolution of Heaven that was dispatched the first Natural day of the last week, was as really, as that Revolution which now is in concluding really is, and as it really was, so it really was but one : And the Revolutions that followed in the two next Natural days were really more than one, and therefore *multa* ; and the Revolutions of the three next days after, was a multitude greater than the Revolutions of the two former days ; and all those six Revolutions were really a greater multitude of Revolutions than any one of the former multitudes, and this without and before any operation of the Understanding, though indeed the Understanding gives them their numeral distinction of one, and two, and three, and six.

5. That the impossibility of Infinitude with Multitude, or the impossibility that any Multitude should be infinite, doth not arise either upon the existence or non-existence of the Subjects of that Multitude together at this or any other determinate time, but from the very nature of Multitude it self : So that whether the *multa* were present, or past,

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or fixed, or successive, yet the very supposition of Multitude doth exclude the possibility of its infinitude: For 1. It supposeth a discrete Quantity, and any Quantity must needs be limited. 2. It supposeth a consistence of many Unities into which it must necessarily be resolved, as the constituent Subject or Matter of them. 3. It supposeth a Term which cannot be the greatest: It is impossible that any Multitude can be so great but that a greater may be given: So that as although there were no Man in the World to take notice of it, every Triangle would contain three angles equal to two right-angles, though no Man were in the World to discover or assent to it; so though there were no things in the World existing to be denominated *multa*, and no Understanding in the World to form the conception of it, it would be an eternal Truth, That what consisteth of many Unities, as all Multitude necessarily doth; cannot be Infinite, nor consequently any Multitude arising by succession cannot in the nature of the thing be Eternal.

Upon the whole matter therefore, I conclude that it is impossible that the Generations of Men or their successive Individuals can be Eternal, that a Multitude doth as well arise by successive as by coexisting Individuals, that if the Generations of Men and their successive Individuals were Eternal, there would necessarily follow, that the multitude of such Individuals were infinite as well as if they were all coexisting, and that it is equally repugnant to the nature of multitude, whether of successive or of coexisting Individuals to be infinite: Therefore there could not be such an eternal succession of Individuals or Generations.

And that this Supposition, That multitude of coexisting Individuals, or of Causes or *moventes per se*, cannot be infinite; but that successive Individuals or Causes and Effects *per accidens* might be infinite and eternal, is in truth a Supposition not fitted to the truth of things, or grounded upon any rational difference between the things, but a Supposition fitted merely to serve that other precarious Supposition which *Aristotle* and his followers had taken up touching the Eternity of the World.

And these shall be all the Reasons that I shall trouble my self withall against the Eternity of Mankind, or the successive Generations and Individuals thereof; having willingly declined those many other Ingenious Reasons given by others (as of the Impertransibility of Eternity, and the impossibility therein to attain to the present term or limit of antecedent Generations or Ages; the necessity of every *posterius* to have a *prius*, that there be an equal number of *priora* and *posteriora*) which either are so many various Explications of the Reasons going before, or at least are not so evidently concludent, or are subject to Exceptions in some particulars.

The Objections both against the Reasons before given, and against the Supposition it self, I shall take up after the next Chapter, wherein I shall examin the other Supposition before mentioned, namely, The eternal existence of some first Man and Woman, and the successive Generations from them, wherein, because it is touched before, I shall be brief.

C A P.

C A P. V.

Concerning the Supposition of the first Eternal Existence of the common Parents of Mankind, and the production of the succeeding Individuals from them.

I Come to that other Supposition, namely, of the Existence of some one Man and Woman the common Parents of Mankind eternally, and the successive multiplication of the Race of Mankind from them by the ordinary course of generation. And although this Supposition carries with it the clear evidence of its absurdity, and therefore may seem to be scarce worth the pains of a Confutation; yet because it lyes in my way, and the Observations upon it may be useful for other purposes, I shall say somewhat concerning it.

This first eternal Pair we cannot conceive to have an existence by a bare course of Nature, without an eternal Creation of them by Almighty God, and an unintermitted Influence from him to support them in a state of Incorruptibility through the vast abyss of Eternity: For he that will suppose things purely under that course of existence that is proper to them by the course of Nature, must needs suppose the Individuals of the humane Nature to have been always such, and of such a Frame as now they are, that is, mortal and corruptible Beings; and though their Ages might anciently be of a longer continuance than now they are, yet (upon a bare natural account) they could not be conceived immortal, incorruptible, immutable, no more than they are now.

Therefore since the great admirers of Nature do therefore frame their *Hypotheses* of an eternal Succession of Men, because they think themselves bound to think that all things have ever been as now they are, and because they will not substitute other *Hypotheses* of the Origination or Existence of things in any other manner than they now see them. Certainly as to these, and *ad hominem*, it is an Evidence beyond contradiction, that there never was any such pair of Man and Woman that eternally existed, but that all Men and other perfect Animals, if they were eternal in their *Species*, were eternally produced *ex primo genitu* as now they are, and that there was no one first individual of Man or Beast that had an eternal Existence, because such a Supposition equally crosseth that course of the nature of things which now they see, which therefore they make the standard, and their measure of things that are past.

They therefore that must support an existence of the first individual Parents of humane Nature, and that those Individuals had an eternal existence, must necessarily suppose that they had that existence by an eternal Creation of Almighty God, and an eternal Influx and Support from him in that incorruptible estate through all the vast extent of an eternal duration.

And by this means they do think, and that truly, that they assert a dependence of the *Species* of things upon Almighty God, which cannot possibly be supposed to be dependent upon him, unless they had in their
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individual nature their existence from him; since it is impossible there can be any Supposition of the existence of any *Species* (as for instance, the *Species* of Man) unless it be supposed to exist in Individuals; nor consequently a dependence of the *Species* of Mankind upon God as its Cause, unless there were a dependence of the first Individuals thereof upon him *in fieri* as their Cause: And they likewise hope (but vainly) hereby to avoid the inconveniences of successive eternal Generations without any first *Caput* or *Radix* of those Generations, though they fall hereby into the same difficulties, and others that are equally intricate and inexplicable.

And although in this Supposition we must admit the first pair that were the Roots of Mankind did herein differ from the state of Mankind now, that whereas now Men live ordinarily seventy or eighty years, and are subject to Death, yet those first *radices humani generis* were by the Influence of the Divine Power immortal, and not confined to the age incident now to Mankind, but were able to endure the immense duration of an eternal being; yet we must also suppose that in other respects they were of the same Make with these individuals of Mankind that are now: For otherwise instead of a supposition of an eternal being of the first individual Man and Woman that had their being by eternal Creation, we shall fall into a supposition of something that was not in truth Man. And therefore, as according to the Doctrine of *Moses* and the Truth, *Adam* the first created Man, though consisting of a composition intrinsically dissolvable, had he continued in Innocence, should or might have held by the continued Influx of the Divine Will and Power a state of immortality and indissolubleness of his Composition; yet as to the Essentials of his nature, and the Integrals thereof, he should have been and continued like other Men.

And therefore those first imaginary eternal Individuals, the Root of Mankind, should have consisted of Flesh and Blood and Mind and Soul and Body as other Men do, they must have the support of their Lives by receiving of nourishment, by digesting thereof according to the various process of Digestion as we do, they must draw in their Breath or Air and emit it again as we do, they must have had the like successive motion of the Heart and the like circulation of their Blood as we have, the like local motion of their Bodies, the like variation and succession of Thoughts as we have; and though the supposed Eternity of them should have excluded from them corruption or dissolution in that vast Period of Eternity, yet even that duration of his must be in this respect like ours, that it was a successive duration, a duration that was measured out by the supposed coexistence of the eternal succession of days, and months, and years: And such a duration, as though there had been no such collateral or coextended extrinsick measure, yet it was intrinsically successive, and not indivisible, because he was in his nature a corporeal successive Being as well as we; and as we in the very Constitution of our *Automaton* have certain successive gradual marks and signs and operations, whereby though there were no external successive measure, by comparison whereto the succession of our duration might appear, as the Motion of the Heavens and Heavenly Bodies, and the like; yet by those connatural successive marks and signs our beings and durations would be

be measured, and the successions thereof would appear; as the vicissitudes of Respiration, the Pulses, Palpitations of our Hearts, the variety and succession of acts of Sensation, the succession of our Thoughts and Cogitations; whereby it is apparent we have not only intrinsecal marks and distinctions of our successive duration, but also that our operations are various: I do, I think and speak that to day which I did not yesterday, the number of my Respirations or Pulses were thus many yesterday, and as many to day, and it may be more, upon the variety happening in my Body by local motion, repletion, or any casual perturbation. And as all this I find in my self and other men, so I must needs conclude the very like was in these first Individuals that are supposed to be eternal: For though they had (*ex suppositione*) an immortality and preservation from putrefaction or corruption by the eternal and continued influx of the Divine Goodness and Power, yet they were not in a state of perfect immutability in their actions, operations, or existence: For then we must suppose them not to have been Humane Creatures, but Gods, or at least Angels; which nevertheless are not wholly exempt from their degrees of mutability and variation, at least in their intrinsic operations: it being the sovereign Prerogative of Almighty God only, to be without variableness or shadow of change.

And now I shall not inquire what are become of those eternal pair of first Parents, where they are, or if they are dead, how it came to pass they could weather and stand the shock of an eternal duration, and yet be at any time subject to a dissolution. It may be said they were translated into Heaven, or possibly they may be since dead, the Divine Beneficence subducting in this or that point of time that Influence which it communicated from the time of their first Creation, whereby they were kept in a state of immortality till that moment of the subduction thereof wherein they began to undergo the common Laws of Dissolution.

But I do say that there is the same impossibility that any corporeal Individual of such a Make and Constitution as Man is, should be eternal *in hoc individuo*, as there is in the eternal succession of several Individuals: Such a kind of duration cannot be sustained by succession of Humane Individuals, much less can it be sustained by any single Individual of Humane Nature.

1. The same absurdities and impossibilities would follow upon the admission of the Eternity of one single Humane Individual as of successive; because that Individual hath necessarily a concomitant succession of interpolated Motions, namely, the Pulses of the Heart, and the successive Motions of Respiration, and divers others. All which will produce multitudes incapable of Infinitude, as much as the several individuals of Mankind.

And among all these Pulses and Respirations some one will be necessarily, infinitely, actually distant from some other Pulse within the limits of time, whereupon all those former heaps of incongruities and impossibilities before observed will be consequential.

2. It is impossible that any Being can be eternal with successive eternal Physical changes, or variety of states or manner of existency naturally and necessarily concomitant unto it. But if we should suppose any one

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Man

one Man eternal, yet he must in the very constitution of his being necessarily have Physical changes and variety of states and manners of existence accompanying him, or else we must unman him, and make him another thing: Therefore no individual Man can be eternal. The Major Proposition is evident to any that consider it. For let us suppose the first Man created eternally in a state of Childhood, Youth, or Rest, it is necessary that he continue eternally in that state, and the first moment he moves or alters that state, must be on this side the uttermost limits or compass of Eternity, namely, within such a compass as is finitely distant from this hour, for two Causes: Because Rest must needs be antecedent to his Motion, his Childhood antecedent to his Youth, and that to his Manhood; and therefore if his Rest, Childhood, or Youth were eternal, his motion or alteration of his state cannot be eternal, for then this contradictory Proposition should be true, That Man did eternally rest and eternally move, or which is all one, eternally move and eternally not move, for Rest in Bodies is but an absence or privation of Motion: That he was eternally a Child, eternally a Youth, and eternally a grown Man.

But let us suppose that it were possible that he might be created eternally in a state of Rest, or yet in some determinate point within the extent of Eternity he should begin to move, that interval that anteceded his Motion must be either in a finite or infinite distance from us: If we should suppose it infinite, we contradict our selves; for we shall make the first Motion eternal, and consequently infinitely distant from us; and yet to have a beginning, and such a beginning that was infinitely later than the Eternity of Rest. And if we shall suppose the interval between the first imaginary beginning of that Rest and the beginning of that Motion, finite, (suppose for the purpose, the time of a Month) then we shall upon the very same account make the beginning of that Motion to be less than eternal, because begun a Month after what was eternal; and consequently also we shall make the beginning of that Rest to be not eternal, because that first Motion having a beginning after Eternity, could not be eternal; nor consequently the beginning of that Rest could not be eternal, for, *ex suppositione*, it is but a Month ancients than that Motion, which was not eternal: and a finite duration added to a finite duration cannot make an infinite duration: Therefore if Man, *ex suppositione*, were created in any state whether of Motion or Rest, Childhood, Youth, full grown Age, or whatever other state it be, he must necessarily so persist an infinite duration, and if he undergo any alteration from that state, that alteration must be in time, or of a puisne date to Eternity.

The second Proposition is this; That Man in his very Constitution is such, that there is uncessantly and naturally concomitant with him Physical changes, and a variety of states and real changes, without which he would be in vain, and indeed he could not be what he must be supposed to be, namely, essentially a Man.

It hath been heretofore shewn what great variety of Motions and Alterations do necessarily accompany his very Constitution, and let any Man but think with himself what a kind of thing Man would be during all that immense abyss of his first being, if he be supposed eternally and unchangeably resting, unchangeably moving, eternally and unchangeably
a Child,

a Child, a Youth, a full grown Man, or any other determinate unchangeable state. As we have before observed, though we should admit a possibility of an eternal Creation of Man or of any created Being whatsoever, we must suppose him created under some of the conditions which are incident to an individual nature; he must be created in some determinate *ubi*, and in some determinate *situs* and state; he must be created in Rest or in Motion, a Child, or a Youth, or a full grown Man: This Man, unless he put off his nature, must in some finite or limited time at least after the eternal imaginary moment of his Being move locally, or with the Motions of alteration, augmentation, growth or decay. These and the like Motions are, upon the account of his Constitution, necessarily incident to him within certain ordinary Periods, and are connatural to his very Constitution.

And therefore it is irrational, and indeed impossible that this created Man should eternally be in a state of Rest without Motion, without Alteration, Augmentation, Diminution; and yet thus he must be conceived to be, if he were eternally made: If once we admit a variation from the state of his Creation, that variation must be necessarily after an eternal and infinite duration, and therefore within the compass of Time: If this Man should be conceived to move or alter his condition within a year, nay a million of years after his Creation, his Creation could not be eternal, because his Creation would be antecedent to that first alteration but a finite time; and that first alteration could not be eternal, but within the compass of a finite time; and consequently his Creation antecedent to that first alteration by a finite time could not be eternal, or of an infinite distance from the time wherein I write: And consequently this Creation of Man is not, cannot be eternal, because Man in his very Constitution hath the necessary concomitants of those alterations that are inconsistent with an eternal duration, and such as he cannot be without, according to the very intrinsick fabrick of his native Constitution one Week, much less an eternal duration.

Again, the truth is, the very Supposition of eternal Creation of any Being essentially distinguished from Almighty God is a perfect contradiction in it self: That which is eternal, is that which is without beginning; that which is created, hath necessarily a beginning, although by Creation.

But I shall not prosecute this any farther, the Supposition of any individual of Mankind eternally created is so absurd that it deserves not half the words that have been used about it: But I have not been so prolix in it for the sake of the Supposition it self, but rather because it gives a fair opportunity of clearing of some things which could not be so aptly done otherwise.

And upon all this that hath been said, although it should be admitted that there were an eternal being of a first Man and a first Woman, yet it were impossible in Nature that the Generations of Men should be infinite; and this appears upon the Reasons here given, and likewise upon the former Consideration of the impossibility of the Eternity of Mixed Bodies. For it is absolutely necessary that there be an interval between the first existence of the first created Parents of Mankind and the production of any descendent from them by ordinary course of pro-

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creation

creation or generation : For such a production cannot by any possibility be as ancient as the producents ; though Creation may be instantaneous, yet Generation in its first inception, complement and perfection, cannot be instantaneous. *Ideo&que necesse est ut primus homo per procreationem sive naturalem generationem productus, per novem menses integros post primam conceptionem in utero lateat, & demum post ejusdem in lucem editionem, per omnes gradus infantie, pueritia, juventutis, ad complementum maturioris ætatis deveniat : unde etiam necesse est ut primus homo per generationem, posterior sit primis hominibus per creationem, per spatium ad minus novem mensium. Unde si daretur primos humani generis parentes extitisse per æternam creationem, impossibile est primos homines ex iisdem prognatos extitisse per æternam generationem ; parentum enim existentia præcedere debet existentiam filii, aliter filius per generationem & pater in suis positivis existentis erunt æquè antiqui, utrique æterni : Et si detur existentia patris (licet non sub ea relatione) ante existentiam filii, filii existentia principium habeat necesse est posterius existentia patris, & sic non æquè antiquum, & consequenter nec æternum.*

Upon the whole matter, I do conclude, That although the Creation of the common Parents of Mankind might be *de facto* a very long time since, nay although there can be no imaginable time nor imaginable point wherein the Creation of the Individuals might not have been by the Divine Power, nor no imaginable point but that the Creation of the World or Mankind might have been sooner, if the Divine Will had been so pleased, (for that denotes only a possibility of pre-existence sooner than it was, if the infinite Agent had so pleased, and not an actual Eternity) yet it is not possible in the nature of the thing that Mankind or any other created Being, that hath succession either continued or discrete necessarily accompanying it, should sustain an actual, eternal, and consequently infinite duration.

C A P. VI.

Certain Objections against the Truths formerly delivered, and against the Reasons given in proof thereof, with their Solutions.

THERE are certain considerable Objections against those things that are delivered in the precedent Chapters, and against the conclusency or evidence of those Reasons, these I have delivered over to this Chapter.

The First *Objection* is thus: That Eternity, and Infinite, and the notions thereof are too large for our Understanding, and we are lost when we go about to frame Conceptions of them ; and all our Argumentations touching them are inevident and unconvincing, because our Understanding being but a finite power is capable only of finite Objects, and that the *media* whereby we go about to evince any thing must needs be finite, or otherwise they are not comprehensible by us, and therefore wholly disproportionate to frame Conclusions touching an Object that
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of all hands is agreed to be infinite; our Faculties are proportionate to those Objects that are derived to us by the help and instrumentality of Sense, either immediately, or at least mediately, and therefore are not proportioned to the nature of Eternity and Infinitude. And therefore our Reasoning touching these matters is as if he that were born blind should Philosphize touching Light or Colours, whereunto he hath not, nor never had a Faculty accommodate.

I answer, It is true that there is something which I may call Positive in the conception of Eternal or Infinite, which the Understanding cannot master. But since it is very plain that all things in the World come under the distribution of finite or infinite, or that which hath a beginning, or that which hath not a beginning and is consequently eternal; If I can (as most certainly I may) have a conception of what is finite, and what are the Laws and necessary Connexions of it, I can by that Notion conclude that whatsoever is finite, or that must be under the Laws and Rules of finite Beings, cannot be infinite: I have a Globe in my Hand, though I know not the Eternity, yet I know that whatsoever hath or must necessarily have limits or *fines*, is not, cannot be infinite, and therefore this Globe cannot be infinite: And if I can find in any other thing a parity of Reason, I do and may remove infiniteness from it as reasonably and evidently as I do from this Globe I hold, or this Hour I write, or this Life I live: I do therefore certainly know that whatsoever is limited or bounded by somewhat that necessarily anteceded it, cannot be eternal.

I do not determin what Eternal or Infinite is in the Positive nature of it, only I remove Infinitude from what I find to be necessarily finite; and determin, that whatsoever hath bounds or limits to it, is *quid finitum*, and not *quid non finitum*; and whatsoever hath necessarily a beginning is *quid temporale*, and not *quid aeternum*: And all my endeavour hath been to shew that the things before disputed are and needs must be of such a nature as comes under the notion of what I know, namely, *finitum* or *temporale*; and not under the negation thereof, namely, *infinitum*, or *non finitum*, or *sine principio*.

2. *Object.* That by denying the possibility at least of Eternity to created successive Beings, I put a restraint to the infinite Goodness of God, who thereby is straitned in the communication of his Goodness, coeternal to his being, which is part of his Divine Perfection; and also to the extent of his Power and Omnipotence: which is too bold and adventurous.

I answer, Touching the Goodness of God, and the necessity of his communication thereof, I have before said enough in the Second Chapter, I shall not repeat it: But as touching the other restraint upon his Omnipotence, I say, the denying of Power in God to make a Creature, especially a successive created Nature as ancient as himself; is no more a derogation from his Power, than to deny him Power to make a Creature as great, and as good, and as powerful as himself: The Infiniteness of his Duration is a part of the Divine Perfection (in my judgment) incommunicable to any created Being, and it is part of the eminence, and excellence, and transcendence of that Divine Perfection, as well as others that are not communicable to any created Being. But secondly,
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Suppose that Eternity might be communicated to any created Being, as for the purpose, to the more pure Mental Natures, yet I do not disparage the Omnipotence of God when I say it is not communicable to a successive Being that is *in fluxu*; not for want of Power in God, but for want of Capacity in the nature of the thing to sustain such a duration upon the intrinsic discongruity of the one to the other: It would not be a derogation to the Divine Omnipotence, to deny that the Diagonal of a Square should be commensurate in length to the Sides; for the nature of the thing will not bear it.

3. *Object.* But a late Author hath with ostentation enough produced an Argument whereby all those Reasons and Instances concerning the impossibility and absurdity of infinite Generations, infinite Individuals, and infinite Motion supposed to have actually existed, are easily discharged; and therefore he concludes, that notwithstanding all that hath been said, the Generations of Men might have been actually eternal, and that there may be infinite numbers of successive Men, Generations and Revolutions, and that consequently it is not repugnant that infinite may be greater than infinite; that there be infinite Days, and Years, and Men, and yet in that infinite 365 times more Days than Years, yet both infinite; the number of Men infinite, and yet the number of their Hands or Eyes double to the number of the Men: That the Supposition that these are contradictions, are but mistakes and delusions of our Understanding not able well to digest the business of Eternal, Immense, or Infinite. And this he thinks he proves by two principal Instances which he thinks are unquestionable.

1. That there is and would be such a thing as Duration, and that duration would be successive though there were no being *in rerum natura*, which he calls *tempus aeternum*.

2. That there is unquestionably an infinite Space actually: And yet all these imaginary consequences and absurdities follow upon that Supposition, which are urged as the Reasons against the successive eternal duration of Individuals above mentioned: For in that infinite space there are infinite Miles and infinite Leagues, and yet thrice so many Miles as Leagues: The extent at both the extremes of East and West infinite; yet each extreme divided, infinite: and many such the like Instances, which yet notwithstanding avoid not the truth of an infinite extension.

To this I answer briefly in this place, (for I have elsewhere examined at large the truth of both these *Hypotheses*) I do in the first place premise, That as the excess (as I may call it) of Being, namely Infinitude, is difficult to apprehend; so the defect of Being, namely Nothing, is very difficult to apprehend: When we go about to apprehend simple Nothing, yet our Imagination clothes it with something like Existence, and gives imaginary being to Nothing, before we can come to shape a thought concerning it.

And certainly Duration and Space are in themselves relative to something that doth *durare*, and something that is *spatiatum*, namely, something extended: And if any (thing I cannot say) but if any Conceivable is more nothing than another, Duration without a thing that dureth, and Space without a thing that is extended in it, is the veriest, the absolute Nothing that can be: While they are in conjunction with the thing

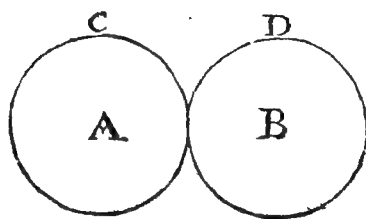
thing that sustains them, they are the meanest Being that is, for they are but modes of being; and therefore when the things that must sustain them are not, they are the purest nothing that can undergo the notion of Nothing.

To say there is a duration, whether successive, or permanent, or indivisible, when there is nothing that doth sustain that duration, is a Phantasm of Nothing under the notion of Something: For it is most apparent to any man that will but lay aside the Phantasm, That the duration of every thing is diversified in relation to it self, according to the nature of the thing that endures; and though it coexists with a thing that appropriates another kind of duration, as suitable to its being, yet it retains still its own duration, as appropriate to it self. Thus the duration of the glorious God is another kind of duration than that of Motion or Bodies, and yet it coexists with that duration. Nay possibly the duration of a permanent Being (we will take it, a piece of Gold) hath another kind of duration than that of Motion, that is successive: So that all the notion that we have of Duration without relation to something that endures, is a fiction that the Understanding takes up, and the Image whereby it conceives it, is partly by the successive-ness of its own operations, and partly by those external measures that it finds in Motion, rendred a successive Nature, and *pars post partem*: And thus the imaginative Understanding dresseth up a Nothing, namely, Duration without a thing that endures, and then attributes to it what she finds in her self, and the things she converseth with, namely Succession; when really there is no such thing as duration or successive duration, unless there is something that doth so endure.

And that this is nothing else but a creature of the Imagination appears by this: No man alive can suppose that there is any existence of duration that is to be a thousand years hence, it rests merely in possibility; yet the Imagination will dress up that future duration under certain proportions that it borrows from the things it sees and converseth with.

And what is said of Duration without a Body that endures, is in truth to be said of Space without a Body to which it relates, and therefore well called *spatium imaginarium*.

The just apprehension of Space seems to be this; That wheresoever there is a Body actually existing to which Space relateth, there is an actual space: And therefore if we should suppose nothing to be beyond the convex Superficies of the last Heaven, yet the immediate contiguity of that convex to nothing were a real space, because it denotes a true relation to that which is, namely, the convex Superficies of the highest Arch of being: Nay, if we should suppose that the Universe were perfectly spherical, and another Universe of the same dimension and figure were created contiguous to it, as *A* and *B*, though they were contiguous only in the point of contingency, yet their two imaginary Poles *C* and *D* would have really a space between, which would be commensurate to the Semidiameter of both Spheres; for still there is a real distance between the parts of two Bodies, and from that relation
arise



arise a real space : So if the Air within a concave Sphere or Cube were annihilated or not there, yet there would be a real space between the sides of the Cube or Sphere though no Body intervened, because still there remained the ambient sides, to which that space may as well relate and be commensurate, as if the vacant space were full of Air.

But without relation to some Body, there can be no actual Space; for Space is a term meerly of relation to something that is *spatium*.

But then comes in the Author, and brings *Lucretius* with him, and tells us, that before the World was there was Space, or otherwise how could there be room for the Universe unless there were space to receive it; and supposeth that if an Archer were upon the convex Superficies of the Heaven there would be space for him, and if he shot his Arrow upward, there would be space for that Arrow to fly, or else the Arrow would not move from the string.

And all this is very true, and yet it proves nothing of real Space beyond the confines and relation of Bodies.

But as in relation to the infinite active Power of God, nothing had (as it were) a passive potentiality to be something, to be a Body, to be a World; so consequently nothing had a potentiality, as I may call it, to become Space when the World was made, and together with the production of Body there was a production of Space: As if at this day in the sunshine there should be produced an opacous Body, together with it the shadow would be produced: and as the shadow, though really nothing when there was no opacous Body, had a kind of potentiality to be, upon the existence of that Body; so this abyss of Nothing had a kind of potentiality to be Space, when something was produced to which it might have relation, as *quid spatium*.

And the same Answer is most clearly evident, as to *Lucretius* his Archer.

There was nothing, and therefore no space, till the Archer came to the convex of the uppermost Heaven, but only a potentiality, if I may so call it, to receive him when he was there; and when he shot up his Arrow, that space that really was not before, but only potentially to serve a Body when it comes there, now becomes space for the flight and return of his Arrow; but when it was returned, now the space no more existed for the Arrow, nor for the Archer after his coming from the convex of the highest Heaven: so that though nothing may be space when it hath a Body to which it may relate, yet till that relation it is not space, but nothing.

And certainly that which imposeth upon persons to assert an infinite Space, is this: Their Imagination and Phantasie doth first create a Phantasm, that doth *subire vices corporis*, and they fill an imaginary space or an imaginary extension with that Phantasm, and then indeed they have got an imaginary space; I say, their Phantasie and Imagination follows the conception of the imaginary space with an imaginary extension, either supposing the World infinitely extended, or else fancying the Archer and the Arrow, and when that is handsomely fancied, the Phantasm it self doth effectually in the Imagination serve the turn to make up a relation between a Body and it, though really there be neither infinite Body, nor infinite Space, till the Body comes to give it its relation.

And

And if men will needs be concluding, that because I cannot deliver my self from the apprehension of space *ultra pomæria cæli*, therefore it must be supposed really to be; we shall find another imagination hardly able to deliver it self from the apprehension of something beyond the last Heavens, and again something beyond that, because it cannot frame to it self an apprehension of nothing, or of any space to be without a Body in it; and so upon the same reason prove the World infinitely extended.

And yet I appeal to the Phantasie of these very men which either suppose an infinite empty Space, or an infinite World, whether they can bring their Imagination to such a discipline as to suppose this Infinitude all together, but are fain to go on from one step to another, and to think first of a space larger than the Heavens, and then of a space larger than that, and so gradually; so that if Imagination should be a sufficient *medium* to prove a real existence, it would only prove an indefinite space or extension, not a space or extension actually infinite; for Imagination will never be able *per saltum* to conceive actually Infinite, nor without an Image of Existence to conceive that which actually is not.

Therefore it seems to me to be too precarious an Argumentation against the strong evidence of Reason, to prove the existence of an infinite Space or infinite Body, barely by bold affirming it; or because a man's Phantasie, or Imagination, or Intellect being accustomed to the knowledge only of things extended and real space, cannot deliver it self from the thought of an imaginary space or extent, though there were nothing in the World to sustain it.

And upon this account a late Excellent Author hath used a very incongruous *medium* to prove a most certain and important Truth, namely, the existence of God, because there was really a Space before the World was created: Whereas first of all, there could be no Space without a Body; and secondly, if there could be such a Space, it were of a divisible existence, which could hold no proportion with the indivisible nature of the glorious God; Space being *quid extensum*, and divisible; but the Essence of God purely spiritual and indivisible, and equally immense, whether there were a World or no World; Space or no Space.

4. The Fourth *Objection* is this: That it seems that it is not inconsistent that one Infinite should be larger than another, and yet both infinite: Instances may be given of two kinds, 1. One Infinite in Intension may be larger than another; there are degrees of perfection in Created Natures, a Brute is more perfect than a Vegetable, and a Man more perfect than a Brute; and an Angel more perfect than a Man, and one Angel more perfect than another, at least gradually; and consequently the Perfection of Almighty God must more infinitely exceed the perfection of a Man than it doth of an Angel, and more infinitely exceed the perfection of an Angel of an inferiour Order than an Angel of the supremest Order, and yet He infinitely exceeds the perfection of the most perfect Angel. 2. In Extension, or somewhat analagous to it: Certainly the the Eternal God had an eternal duration the first moment that he had Created the World as he hath now, and yet with Humility and Reverence in so great a Mystery, we may say, and that truly, that he hath endured at this day above five thousand years longer than he had endured

at the Creation of the World: so that it is not repugnant to the nature of Eternity to be longer or shorter.

I answer, That for the obviating of this difficulty I have willingly declined that Instance against the eternal succession of Mankind that purely consists upon the account of additional accessions to the latter end, as I may call it, of Eternal Duration.

But first, I say that this answers not at all the Reason given, the stress whereof rests not upon the incompetibility of an excess of one Infinitude above another either in Intension or Extension, but the incompetibility of any multitude to be infinite; because it is impossible that any number or multitude can be infinite if there can be another multitude or number given that exceeds it, which will fall out in the successive Individuals and Generations of Men: But the glorious God, as he is most simply and indivisibly One, and all his Perfections essentially and indivisibly the same with his most One and indivisible Being; so the infinite excesses both of his Essential Perfections and of his Eternal Duration beyond all other Beings, are not measurable by multitude or number of degrees or successive moments, which would in it self imply either parts or divisibility, but exceeds them all by an infinite interval that neither hath nor can have any bounds or limits: As his Perfection is infinitely greater than the perfection of a Man, so it is infinitely greater than the perfection of an Angel; and were it not infinitely greater than the perfection of an Angel, it could not be infinitely greater than the perfection of a Man, because the intensive distance between the perfection of an Angel and of a Man is but finite: And therefore though that interval between an Angelical and a Humane perfection be subducted out of the extent of the Divine Perfection, still the extent of the Divine Perfection is infinite; for what is so subtracted or subducted out of the extent of the Divine Perfection, leaves still a Quotient, if I may so call it, Infinite.

Secondly, That which gives a clear Answer to the Instance is this: The Perfection of Almighty God is a Primitive Essential Perfection, antecedent to all created perfection; and all created perfection is a perfection indeed given by the glorious God, according to such measures and degrees as he is pleased to bestow: But as it is a derivative perfection, so it is a distinct kind of perfection from that which is in God, and of another nature, and makes no alteration in the Divine Perfection, nor borrows any of it: The glorious God was equally perfect before a Brute, or a Man, or an Angel, or a World was created, as he was after; and the production of Creatures of various degrees of essential perfection contributes nothing to it, nor takes any thing from it, nor makes any alteration in it: only it gives a new or farther relation from the Creature new created unto the Creator, and that in those various ranks or degrees of perfection is indeed diversified by disparity in the Creatures themselves, and in that comparative preference that one hath above another; but still it is without and below the essential infinite Perfection of God, and doth no way affect or alter it. Take this Example in some measure to explain my meaning; I have a Rod of six foot long in my Hand, I take another Rod of four foot, another of two foot long, and apply them to my Rod of six foot long; I thereby find that my Rod of four foot takes up a greater space upon my Rod of six foot than that of two foot, yet it makes

makes no alteration in my Rod of six foot, but that continues of the same length as before, only by the application of the shorter Rods to it there ariseth a new relation, or rather variety of comparison between the Rod of six foot and the other Rods. Thus the Divine Perfection is primitive, absolute, unchangeable; and when a Man is created, there is a Creature made that hath a perfection greater than a Brute, and when an Angel is created, he hath a perfection greater than a Man, and thereby comes in a nearer degree or likeness of perfection to the Divine Excellence than a Man doth; but yet it doth not at all alter that Perfection that is primitively and essentially and infinitely in Almighty God, but is a perfection of quite another kind as well as degree.

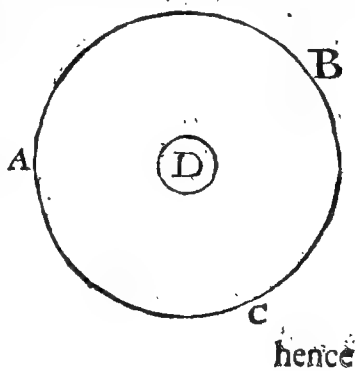
And upon the same account it is, that although the extent of the Divine Duration is now greater than it was five or ten thousand years since, yet the duration of the Divine Existence was no less infinite ten thousand years since than it is now; because the duration of ten thousand years is but finite, and therefore though taken out of an infinite duration, leaves still the duration infinite; for finite taken out of infinite, leaves still that which remains infinite.

Besides, the duration of the glorious God is the duration of such a Being as is indivisible, and as he hath no divisibility in himself, so neither is his Eternal Duration divisible into parts.

It is true, that when his own Power hath produced a World, and with $\text{\textcircled{R}}$ Motion, he coexists with that Motion and successive Duration of created Being, which is little else besides a relation to the things existing: And therefore he cannot be said now to coexist with that which yet is not, but shall be, because the coexistence with any thing imports an existence of both the terms of that relation: And although by reason of that relation to Beings that are successive and have succession of parts, as Local Motion, or successive Generations; it seems to us that he hath a kind of succession in his duration, yet most certainly the existence of a divisible succession in created Beings doth no more make his duration successive than if nothing had been besides himself: As the unsuccessive duration of Almighty God with relation to himself, which is the *modus existentia divina*, doth not communicate unto Motion or other created Being the same manner of duration which is appropriate to the Divine Existence; so neither doth the existence of Motion or created Beings transfer to the Divine Being such a kind of duration as is proper to them, namely, a divisible successive duration consisting of successive and innumerable parts: For, as I before have observed, the duration of every thing, which is only the mode of its existence or *permanentia in suo esse*, is diversified according to the nature of the existence thereof. And though by reason of the coexistence of one thing with another there ariseth a various relation or connotation between them, yet it alters not that intrinsecal manner of duration that is appropriate to the Essences of the things themselves.

If we should suppose the Circle ABC to move about a fixed unmoveable Center at D , whereby the part that is now in A , an hour

R 2



hence will be at *B*, and an hour after that at *C*, and thereby is gained successively different relations of site or position between the fixed or stable central Body at *D*, yet it is without any variation either of *situs* or motion in the central Body at *D*, which all this while rests unmoveable, and keeps the same unaltered site or position in it self: So it is in the coexistence of successive Beings with the indivisible, fixed, permanent state of the glorious God.

But in all this there is nothing that answers or weakens the Reason before given against the Eternity of successive Generations or Individuals, which is not upon this account, that that which is eternal cannot be extended to a greater extent at the hithermost and concluding extreme, as I may call it, for at the hither end it is *quasi quid finitum*; but that those Beings that must by their successive existence *excrefcere in multitudinem sive numerum*, cannot be eternal upon a certain intrinsic incongruity between Multitude and Number of the one part, and Infinite of the other part: But in the eternal duration of the glorious God there is neither Multitude, nor so much as Succession. And this is my second Answer.

3. My third Answer is this: That although it may be, and certainly is consistent with an eternal duration, that it may be shorter, or it may be longer upon the hither end thereof, namely, that extreme wherein it is finite, as is before shewn; yet it is impossible to be consistent with the very notion of an eternal duration to be longer or shorter, *à parte ante*, in the extreme or remote part thereof, as I may call it; for upon that Supposition it should be *utrinque clausa*, terminated in the moment wherein I write, and terminated or limited by an antecedent being or duration of something else: (With Reverence be it spoken) If any thing in the compass of Nature might bear an eternal Creation, yet if that Creation were but a moment after the Divine Existence, that created Being could not be eternal because it had a pre-existence of the Divine Being before it: Nay, though I use the expression of an antecedent moment to render my conception, yet that very imaginable moment must be an infinite duration antecedent to that created Being; and it could not possibly be otherwise; for if it were possible to be otherwise, it would consequently deny the Eternity of God himself: for that created Being being impossible to be eternal, since it must, *ex suppositione*, have a pre-existing moment of the Divine Existence, if that *mora præ-existentiæ divini* were not eternal, but a moment, or any limited duration less than eternal and infinite, it would be but an addition of a limited time to a limited or non-eternal time; and therefore cannot be eternal (and here by the way, the Eternal, Incomprehensible Generation of the Son, and Procession of the Holy Spirit are no way concerned in this Dispute, which are not created Beings, nor distinct from the Divine Essence, or essentially distinct from one another, but One Incomprehensible God Blessed for ever) though under a personal distinction.

This therefore being the true state of the matter, the Reason herein given doth not at all infirm the important Reason against the Eternity of Mankind, because necessarily there would upon such a Supposition follow an Eternity that had a beginning, an Eternity that was puerne to some other thing or some other Eternal: And that although that
duration

duration which is infinite in one extreme, namely, *à parte ante*, and finite at another extreme, namely by the present time, may have an increase, accession, or addition in that part in which it is finite; yet it is impossible that it should have any thing before it in that extreme wherein its Infinity and Eternity consisted. This is the chief stress of the former Debate, which is no way impugned by the Instance here given; for the glorious God and his Eternal Existence is such, that it hath not, cannot have any thing antecedent to it; neither is it measured by successive parts, but is simply eternal, infinite, before all things, without beginning of Being or Duration as well as without end; and such a Duration, as it is impossible to suppose any thing before it, or any thing equally ancient to it; but ever was, and ever had Being or Existence, that is, eternally and immutably the same; what once he was he ever was, still is, and ever shall be.

5. A Fifth *Objection* is this: That because we have formerly supposed that nothing can possibly be eternal, and together with it have variety of Operations. The glorious Eternal God hath variety of Operations in all the Works of Creation and Providence, his emanant Actions; and also in the Counsels and Determination of his Will, his immanent Actions; And therefore the Position seems to be derogatory to the Eternity of Almighty God.

I had not inserted this *Objection* but for the fuller vindication of the Truth, and to shew, that it no way in the least imaginable degree derogates from the Truths concerning God.

I therefore answer, that when we are speaking of alterations or changes, it may reasonably be supposed to be one of these kinds.

1. An alteration that with it carries a change of the Nature or Essence of a thing; and thus in a large sense generation or corruption, or the essential change of any thing or Being into another thing; thus corporeal Matter under any determinate form is changeable, and such a mutability is impossible to be consistent with Eternity: and it is thus impossible for the glorious God to be subject to any change, for he necessarily and therefore eternally exists, and must ever exist.

2. An alteration of states or conditions of any Being, which yet as to its essential condition persists as before: thus Bodies are every moment changed, sometimes in quality, as from hot to cold, sometimes in figure, sometimes in dimensions, as the motions of augmentation and diminution: a Child grows unto the stature of a Youth, and then of a Man; and such Beings as these cannot sustain an eternal duration, *à parte ante*; and in this respect the ever-glorious God is perfectly unchangeable, without so much as a shadow of change, but eternally and immutably the same.

3. A change of the internal and immanent acts of the Understanding and Will in a Being endued therewith; as to know that which before it knew not, to will, purpose, or determine what before it willed not or purposed not. The Schoolmen are indeed many of them a Generation of Men that think they can give an estimate of the manner of the Divine Operations, even those that are immanent, when yet God knows 'tis more possible for the Infant of a span long to discern and understand
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and define and determin the most sublime and abstruse Notions of the most Seraphical Doctor, than for such a Doctor to give an estimate of the hidden Operations of the Divine Intellect and Will: And therefore they are too bold to adventure upon such determinations touching these Operations of the glorious God; and in the upshot arrive at nothing touching them but presumptuous, uncertain and dangerous Speculations: and it must needs be so, for as the Heavens are higher than the Earth; so and much more are the thoughts of the unsearchable God higher than our thoughts. The more sober and weighty part of the Schoolmen do conclude this Question in the negative, and assert, That Almighty God by one eternal act knew all things from all Eternity, and by the like eternal act willed from all Eternity what he any way willed; and though the termination of that Will respected Objects that neither were nor could be eternal, yet his Knowledge and Will was eternally the same as ever, and he begins not to know any thing which he did not eternally know, nor to will any thing which he did not eternally will, though the execution of that Will respects things to be done in time and futurity. And certainly as this is the most probable Opinion, so it takes away the pretence of the Objection; the immanent Acts and Operations of the glorious God being eternal and without change.

It is true, some late Schoolmen, and after them *Clara* in his 4th *Problem* seems to assert, that, *Divina voluntas potest velle aliquid novum sine mutatione sui.*

But suppose that this Supposition were admissible, yet this would not any way be inconsistent with the Eternity of the Divine Nature and Essence: 1. This is no Physical change in Almighty God, but a voluntary and free operation of his Will, which possibly was so at first willed by him to be changed according as he saw cause in his infinite Wisdom. 2. That this which is here called a change of his Will, is not in truth a change of his Will, but a change in the Object, which only seems to make a diversification of the Will, but indeed is the same Will diversified only in the habitude to the Object. The Will of God is like a straight unalterable Rule or Line, but the various comportments of the Creature either thwarting this Rule or holding conformity to it, occasions several habitudes of this Rule unto it. We need no better explication hereof than that of the Prophet *Ezekiel*, Chap. 33. from the twelfth to the twentieth Verse.

4. A change of Actions and Operations in relation to some external Object, or terminated therein; and such a change as this is consistent with an Eternal Being, though the change happen in any given portion of Time: Thus the Almighty and Eternal God created the World by his Power and Will in the beginning of Time, and orders, governs and disposeth of the things by his Providence in all the Periods of Time, and yet without any Physical or real change in himself. And thus he began to be a Creator, when before he was not a Creator; and began to be a Governour of the World after it was made, and exerciseth divers external acts of his Providence daily which before he did not. For those various acts of his are terminated in such Objects as neither were nor could be eternal, namely, the World and the Government thereof: And although he thereby gain a change of relation or relative denomination,

nation, yet it is no real or Physical change in himself. For all relations arise from the supposition of existence of both the terms of relation, as between the Creator and the thing created, and the Governour and thing governed; and therefore although one of the terms of that relation, namely the Eternal God, had an eternal existence in his own absolute nature; yet the World, that was the other term of relation, had no eternal existence, but was created in the beginning of Time, and the relation of a Creator or Governour must necessarily therefore arise in Time, and not from Eternity, because one of the terms of the relation, namely the World, had not any existence before Time began.

But in the eternal Generation of the Son and Procession of the Holy Spirit, the *termini relationis* were all eternal, and consequently the relation of Paternity and Filiation between the First and Second Person, and the relation between the Sacred Persons of the Trinity and the denomination thereof must needs be eternal, because the terms of relation between whom that relation ariseth were eternal: But it is not so between the Eternal God and a temporary World, for the relation could not arise till the World had an existence; and a change or acquiescence of a new relation is not at all any real change in God, but is an accident resulting from the existence of both the *termini*, and can be no ancienter than the coexistence even of the latest and newest of those terms, which if began in time must necessarily produce a new relation, yet without any real change in the pre-existing and eternal God.

And thus I have done with those Physical and Metaphysical Evidences of the Inception of the World and of Mankind, and against the Eternity of both. And although I shall descend in the ensuing Section to Moral Evidences of probability strongly perswading the same Truth, yet I lay the principal weight and stress of this Argument upon what is said in the preceding Chapters of this First Section, which though perchance they may have something of obscurity, as being bottomed upon and fetched from the true nature of the things themselves, and therefore not so obvious and plain to all Capacities, yet they have a conclusency in them not inferior, or at least little inferior to Demonstrations.

SECT.

S E C T. II.

C A P. I.

The Proofs of Fact, that seem with the greatest Moral evidence to evince the Inception of Mankind: And first, touching the Antiquity or Novity of History.

I Have now done with those Evidences that in my Understanding seem, *quasi ab intrinseco*, to evince the Inception of Mankind from that intrinsecal impossibility and inconsistency that the Supposition of the eternal existence thereof bears with his Nature: I now descend to the examination of those Evidences of Fact, which do or may seem to contribute to the proof of what is designed, namely, *Novitatem generis humani*.

And although that Evidences of Fact of things remote from our Sense cannot be said infallible and demonstrative, because the nature of such matters of fact (simply as they are matters of fact) is not capable (as such) of Demonstration; yet they may be Evidences of high credibility, and such as no reasonable Man can with any just reason deny his assent unto them.

That which hath been, hath as certainly and infallibly, yea and as necessarily been, as that which is: *Omne quod est, dum est necessario est, & omne quod fuit, cum jam preterit necessario fuit quando fuit, & in preteritis non est contingentia*. Only that which is, and is obvious to Sense, hath this advantage of evidence which that which hath been wants, namely, the immediate evidence of Sense, wherein though it is not universally impossible but that Sense may be deceived, yet because it is the best evidence that we have of matters of fact, we give credit to it as a sensible evidence, and we have reason so to do.

But of things transacted before our time, and out of the immediate reach of our Sense, we may have such an evidence as in reason we ought as reasonable Men to acquiesce in, though the evidence be still in its own nature but moral, and not simply demonstrative or infallible: And the variety of circumstances renders the credibility of such things more or less, according to the various ingredients and contributions of credibility that are centred in such an evidence.

It is impossible to demonstrate by evidence infallible (or which is all one, by evidence that is impossible to be false) that there was such a Man as *Julius Caesar* or *Augustus*, that there was such a Man as *William* the Conqueror, or King *Henry* the Eighth, or that such a Man was his Father, or such a Woman his Mother; or that there is such a City as *Venice*, or *Rome*, (to me that never saw it,) for all these I have but by relation from others, and it is not impossible but those Histories or informations or relations by which I am informed of these things may be false: And they

they are such matters as have in them a less evidence than my own Sense of Sight; for the evidence of my Sense is simple and immediate, and therefore I have but a shorter cut thereby to the assent to the truth of the things so evidenced: But in things that I have by relation from others, my evidence is of greater distance; for first, I see them not by my own Eyes, but it is others that must first see the thing they relate; and secondly, though I should think that whatsoever might be believed, if obvious to the Sense of others, might have as great a credibility as if obvious to my own, yet I must have a second postulation that must have an ingredient to elicit my assent, namely, the veracity of him that reports and relates it. And hence it is, that that which is reported by many Eye-witnesses hath greater motives of credibility than that which is reported by few; that which is reported by credible and authentick witnesses, than that which is reported by light and inconsiderable witnesses; that which is reported by persons disinterested, than that which is reported by persons whose interest it is to have the thing true, or believed to be true; that which hath the concurring testimony of real existing monuments, than that which is without them; and finally, that which is reported by credible persons of their own view, than that which they receive by hear-say from those that report upon their own view: So that it is not with Evidences of Fact as it is with Logical or Mathematical Demonstrations, which seem to consist in indivisibles, for that which thus is demonstratively true is impossible to be false; but Moral Evidence is gradual, according to the variety of circumstances. Yet such a man would be exploded as an irrational man, that will not believe there was such a man as *Julius Caesar*, because the Historians that write of him might possibly conspire to deceive the World with a Romance, or that the Books may be supposititious or corrupted; or will not believe that such a Man was his Father, or such a Woman his Mother, because he might be supposititious; or will not believe there is such a City as *Rome*, which he never saw, because Travellers are wont to love to tell strange things, and so may many as well as one.

So that as eternal Truths may have one kind of certainty by Logical Demonstration, and as Mathematical Conclusions have an infallible certainty by Mathematical Demonstration, and as matters objected immediately to our Sense have another kind of certainty by sensible evidence, so matters simply of fact not objected immediately to our Sense have another kind of certainty, though not altogether equal to the former; nor simply infallible, yet so highly credible that may justly elicit the assent of reasonable men, and such as is proportionate to the nature of the thing, and therefore more cannot be reasonably expected for the proof of the fact.

In the pursuance of this Argument, namely, Evidences of Fact touching the Origination of Mankind, I must therefore say that the Evidences thereof are not of an infallible certainty, and so much the rather because it relates to a matter that at the nearest that can be supposed is near six thousand years distant from us, and some suppose more; therefore the Evidences of Fact are as it were percolated through a vast Period of Ages, and many very obscure to us. And therefore all Proofs of this kind except that of Divine Revelation (which though true, and infallibly true,

we must not by the Laws of Argumentation bring in here, because at one word it determins the Question) will arise to no higher than Moral, and therefore fallible in their own nature. We rest upon what hath been before said for Evidences and Reasons, that to me seem demonstrative.

But yet the Evidences of Fact which we shall produce must be considered also with these Advantages for their credibility.

1. They are such as bear a great congruity and consonancy with, and subservience to those former Arguments that *ex natura rei* and *intrinsecè* prove an impossibility of an eternal duration of Mankind, *à parte ante*, which though it doth not, cannot evince that Mankind must have their Origination or Beginning *in hac vel ista hora*, yet they do evince that Beginning it must have, and the evidences of fact are as so many *testes*, *contestes*, or *suffragiales*, that bear witness to that Truth that the former sort of Arguments do plainly evince.

2. Though these Evidences of Fact taken singly and apart, are not without their Objections that may seem to weaken them, yet *juncta juvant*: That evidence at Law which taken singly or apart makes but an imperfect proof, *semiplena probatio*, yet in conjunction with others grow to a full proof, like *Silurus* his twigs, that were easily broken apart, but in conjunction or union were not to be broken.

Truths (especially of Fact) are not made Truths by Arguments or Evidence: If there were once such a man as *Cæsar*, it is most certainly true that he was, though no Historian ever mentioned him; and therefore if there were ten thousand Authors that mention him kept sacredly and inviolably in certain Archives unto this day, all this evidence doth not make him to be, but only gives us a light and evidence of great probability that he was: The Stars in the Milky-way, and those *Assella Jovis* are not therefore in the Heavens or *Æther*, because the Telescope hath discovered them, for they were there before; but the position of those Glasses present them to our perception, and evidence their being, which cannot be discovered without them.

And so it is with Evidences of Fact, they do not make the thing to be, but evidence them to be; and because if to any one *quisitum* of fact there be many but probable evidences, which taken singly have not perchance any full evidence, yet when many of those evidences concur and center in the evidence of the same thing, their very multiplicity and consent makes the evidence the stronger; as the concurrent testimonies of many Witnesses or many Circumstances even by their multiplicity and concurrence make an evidence more conclusive.

Now these Evidences of Fact I shall cast into these ranks.

1. We have no authentical History of former Ages extant, but what hath been written within the compass of four thousand years.

2. The subject matter of those Histories give us no account of the Original of great Monarchies, Kingdoms, or Commonwealths, but what appear thereby to have begun within the compass of about five thousand years.

3. The original Invention and Inventors of most considerable Arts had their Origination, as far as we can find, by Monuments of ancient times, within the compass of about six thousand years.

4. The

4. The Original of the *Apotheoses* of most of the Heathen fictitious Deities appears by the ancient Monuments of former times to have had their beginning within the compass of five thousand years.

5. The most authentick Histories and Monuments of Antiquity give us an account of the first Fathers, or *Capita familiarum*, and of the Plantation of the known Parts, Continents and Islands of the World within the compass of five thousand years.

6. The Inhabitants of the World do daily increase, and their increment surmounts daily their decrease, which could not be, unless the World of Mankind had their original within some proportionate time, and could not consist with such a vast excess of duration which some would assign, much less with an eternal duration, or such as never had a beginning.

7. There hath in all Ages, and among all People been a constant tradition retained and believed, touching the Origination of Mankind *ex non genitis vel per generationem propagatis*.

These are the Heads of those Evidences of Fact which I shall use in this Argument touching the Origination of Mankind, whereunto possibly other occasional Topicks of the like nature may be added,

And touching these Evidences of Fact, this I shall subjoyn.

1. That I do not lay the weight of this Argument upon those Evidences of Fact, because they have or may have their several allays and fallibilities, which I shall impartially subjoyn to every particular Topick.

But I lay the weight of the Argument upon what hath been before said, which to me seems to be little less than demonstrative, drawn from the intrinsic nature of the thing, and from that absurdity which would arise upon the Supposition of the Eternity of Mankind, and the impossibility of an eternal duration, *à parte ante*, to successive Natures.

2. That although singly and apart these Evidences of Fact are not so conclusive but have their allays and exceptions, yet they have these advantages that advance their evidence, as very credible, 1. In that the Supposition which they are produced to prove, is not impossible to be true: 2. That there is nothing of probability of Reason or Instance that can be produced against the truth of that Supposition which is contended to be proved by them: 3. They have so much the more weight and evidence, in that they do suffragate and bear witness to the truth of that Supposition (namely, the Inception of Mankind) which holds so great a congruity with the intrinsic reason and nature of the thing, the contrary whereof, namely, the Eternity of Mankind, is apparently contradictory to a strict and true reason.

3. That although these Evidences of Fact, taken singly and apart, possibly may not be so weighty, yet the very concurrence and coincidence of so many Evidences that contribute to the Proof of the thing designed, carries with it a great weight, even as to the point of Fact: it is not probable that that Supposition should be false which hath so many concurrent Testimonies bearing witness to it: And therefore although I shall impartially subjoyn those Allays and Abatements which may be brought against the several Instances, whereby if single, they might seem of less weight and moment; yet I do not thereby take off that Evidence

which in consort and conjunction they give to the truth of the Supposition intended to be proved by them.

4. That it cannot be expected in an Argument of this nature, which is touching a matter of Fact, that Evidences of Fact can be no more than topical and probable; and therefore though there may be Allays and Abatements that may take away a necessary or infallible conclendency in these Evidences of Fact, yet it is sufficient that they be probable and inductive of Credibility, though not of Science or Infallibility. *Aristotle*, as I remember, in the beginning of his *Politicks* tells us that all Truths have not the same kind of Evidence, neither indeed can have, and therefore it is unreasonable to expect such an Evidence as the thing cannot possibly bear, though it be a real Truth.

5. That among these Evidences of Fact, though all contribute to the Proof of the Supposition, yet the three last seem to be of that nature that they are of greatest weight, and less subject to exception.

6. That in as much as in this Argument I design only the use of Reason and Reasonable Evidence, and endeavour to make my Supposition evident to Reasonable Men as such; I do not therefore make use of the divine and irrefragable Authority of the Holy Scriptures: For they that subscribe to the Infallibility and Divine Authority of them, need none of this Method of Ratiocination that I use to prove this Supposition of the Origination of Mankind, which is so plainly and distinctly delivered in the Holy Scriptures; and therefore where I have recourse to the Holy Scriptures, I use it but as a Moral Evidence, a History highly credible; and I demand of my Readers this equal Justice, That he would at least give it that credit that the Antiquity, Congruity, and Moral Evidence of it deserves, which certainly would be much more than what the most do ordinarily allow to the History of *Thucydides*, *Herodotus*, *Livy*, *Tacitus*, *Manethon*, *Xenophon*, *Ctesias*, or *Berosus*.

7. Though in this large Discourse I may seem to lose time by proving of that which is not questioned by sober Men, that in a laborious Discourse of this nature I do rather raise a Question that would be at quiet if let alone, at least I lose time, and, *magno conatu nihil efficiam*; yet I hope in the Conclusion it will be of use to confirm our Faith, to magnifie the value of the Holy Scriptures, and to give some stop to those *Atheistical* and *Epicurean* Opinions that begin more than formerly to obtain in the World.

C A P. II.

Concerning the first Evidence, the Antiquity of History, and the Chronological account of Times.

BUT before I begin, I shall prefix a short Chronological Scheme of Times, to which I shall have occasion oftentimes to refer; wherein I shall not be over-sollicitous for great curiosity or exactness. For although there is scarce any one Chronological Writer that differs not from another in the precise connexion of Times and Things, yet there will

will be certainty enough for my purpose, if I take so much out of them wherein they do in substance agree, though they differ in their particular Account.

And although the Account of the Years of the World according to the *Seventy*, do seem more useful to the solution of some difficulties in Chronology, who assign 2262 years from the Creation to the Flood; and from thence to the Birth of *Abraham* 1132 years; whereas the *Jewish* Account assigns for the former Period 1656 years, and for the latter 292 years. So that according to the *Seventy*, from the Creation to the Birth of *Abraham* were 3394, but according to the *Jews* only 1948 years; yet I shall rather choose to follow the *Jewish* Account, and take *Helvicus* Abstract for my little, small Chronological Table.

Anni Mundi.	JUDAICI.	ASSYRII.	ARGIVI.	ÆGYPTII.	ATHENI- ENSES.	HISTO- RICI.
1656	<i>Diluvium.</i>					
8171		<i>Belus.</i>				
1771		<i>Ninus.</i>				
1823		<i>Semiramis.</i>				
1870		<i>Ninus.</i> <i>Sardanapa- lus.</i>				
1948	<i>Abraham natus.</i>					
2093			<i>Inachus.</i>			
2123	<i>Abrahami mors.</i>					
2149			<i>Phoroneus, Regnante in Attica Ogy- ge, & intra annos Phoro- nei, diluvium Ogygium.</i>			
2200			<i>Apis.</i>	<i>Ægyptio- rum dyna- stia: The- mosis.</i>		
2210						
2220	<i>Joseph in Ægypto.</i>					
2235			<i>Argus.</i>			
2309						<i>Promethæi seculum.</i>
2373	<i>Moses natus.</i>					

Anni

Anni Mundi.	JUDAICI.	ASSYRII.	ARGIVI.	ÆGYPTII.	ATHENI- ENSES.	HISTO- RICI.
2430					<i>Athenien- sum dynastia prima : Cecrops.</i>	<i>Deucalionis diluvium.</i>
2450	<i>Exitus ab Ægypto.</i>					
2475			<i>Danau.</i>			
2490	<i>Joshua dux.</i>					<i>Ganymedis raptus.</i>
2573						
2660			<i>Cadmus è Phœnicia in Græciam migravit.</i>			<i>Hercules Amphitryo- nis filius.</i>
2710						<i>Argonau- tarum expe- ditio.</i>
2750						<i>Bellum Tro- janum, & Trojæ exci- dium.</i>
2850						<i>Reditus He- raclidarum.</i>
2905	<i>David Rex Israelis.</i>					<i>Ionica mi- gratio.</i>
3000						<i>Homeri ætas.</i>
3060	<i>Athalia & Joas.</i>					<i>Lycurgus legislator.</i>
3175	<i>Uzziah.</i>					<i>Olympiades incepti.</i>
3195						<i>Roma con- dita.</i>
3325						<i>Solon & se- ptem sapien- tes.</i>
3391						<i>Pythagoras, Cyrus.</i>

Having premised thus much touching the Chronological Account of some Times and Things past, without confining my self to the exactness of Years, and with omission of many things happening in these Periods; I shall now proceed with the first of my Instances, namely, touching the Histories of former Ages, and their Antiquity; reserving
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the matter of their Histories; and what may be collected from them, to the ensuing Chapters.

Those Nations whose Historians put fair for the greatest Antiquity, are the *Romans*, *Grecians*, *Persians*, *Assyrians* or *Babylonians*, *Egyptians*, and the *Jews*: of all these there is something extant.

As touching the *Chineses* and their long derived Annals, there is much spoken by report or relation, but nothing authentick thereof is extant to the common view but some ingenious yet uncertain Collections out of *Martinus* by Mr. *Webb* in his Essay touching the Primitive Language; *Vossius*, and some others: and therefore I shall spare any thing touching them.

First touching the *Romans*, though there were many Monuments of Antiquity preserved in writing among them, as appears by their Laws of Twelve Tables, their *Fasti Consulares*, the Transcripts whereof are extant to this day; yet we cannot expect so much Antiquity of Historians and Writers among these, as we may among other People of greater Antiquity; since the first Foundation of their City was some time after the *Olympiads* began, viz. in the 7th *Olympiad*, and about the year of the World 3190.

The *Grecians*, whose Monarchy preceded that of the *Romans*, have more ancient Historians than the *Romans*: And not to reckon up their Philosophers and Poets, that applied not themselves to History, I shall only mention these that follow: *Xenophon*, that lived about the 97th or 98th *Olympiad*; *Thucydides* and *Herodotus*, who lived about the 85th or 88th *Olympiad*; but he among them of greatest note and antiquity was *Homer*, who wrote the History of the *Trojan War*; touching the time of his life and writing the Chronologists agree not, some making him 200 years after the Destruction of *Troy*, some more, some less; but all placing him before the first *Olympiad*, and after the Destruction of *Troy*, those two famous *Epoche* among the *Greeks*.

This is the ancientest Poetical Historian that is extant among the *Greeks*, although it is not unlike that many were more ancient among them, as is mentioned by *Tatianus* in *Euseb. preparationis lib. 10.* as *Linus* the Tutor of *Hercules*, *Amphion*, *Orpheus*, *Museus*, and some others; yet we have little extant of them but Poetical Raptures and Fictions, and those also but in fragments and pieces traditionally preserved in subsequent Authors.

Among the *Persians*, though their Monarchy were more ancient than that of *Greece*, yet we have less extant of Historical Writings concerning them; the ancientest that I have heard of is that of *Xenophon*, though a *Grecian*, and *Ctesias*, who is supposed to have lived contemporary with *Xenophon*; *Megasthenes*, a *Persian* Historian about the 120th *Olympiad*, out of whom *Abydenus* that wrote touching the *Assyrians* and *Babylonians* extracted many things relating to the *Persians*, as appears by his Fragments cited by *Euseb. lib. 9. Prepar. sect. 41.*

Touching the *Chaldean* or *Babylonian* Historians, though that Monarchy be extended to a vast Period by some of their ancient Historians, yet the ancientest credible Historians that we have concerning them are, *Berosus* who lived about the 130th *Olympiad*, and *Abydenus* before mentioned: only it is reported by *Simplicius* out of *Porphyry*, that *Calisthenes*

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one of *Alexander's* Captains brought to *Aristotle* from *Babylon* a relation of their ancientest Astronomical Calculations, 1903 years before the Taking of *Babylon* by *Alexander*, which is supposed to be in the year of the World 3620 according to the *Septuagint*; which gives a probable conjecture of the Inception of the *Babylonian* Monarchy to be about 200 years before the Birth of *Abraham*.

Touching the *Phœnicians*, from whom it is supposed that not only Learning but Letters themselves were brought into *Greece* by *Cadmus*; the first and ancientest Historian is supposed to be *Sancuniathon*, who is related by *Philo Biblius* according to *Euseb. præpar. lib. 1. sect. 9.* to have been before the Destruction of *Troy*, and very near the time of *Moses*, and to have written a History à *prima Universi molitione*, and that he searched many Monuments of Antiquity: The Writings of *Mercurius Trismegistus* whom the *Egyptians* call *Thoth*, and the *arcana Ammoneorum volumina*, purged the History of former times from Fables, and gave a full account of former Ages, whose Writings *Philo Biblius* translated into *Greek*, and digested into nine Volumes, he gathered much from *Hierombal* the Priest of *Jao*, whom *Bochart* upon very probable reasons supposeth to be *Gedeon* called *Jerubbaal*; and having set up an *Ephod* in his City, might be supposed a Priest, and from the intercourse between them the Idol *Baal-berith* was brought from *Berith* the City of *Sancuniathon*, into *Judea*.

Touching the *Egyptians*, they pretended to the greatest antiquity both of Government and Learning; the latter they principally derived from *Hermes*, stiled by some *Mercurius Trismegistus*, and by the *Egyptians* *Thoth*; the *Phœnicians* made claim to this man as theirs, attributed to him the Invention of Letters, of Navigation, of the Virtues of Herbs, *Euseb. lib. 1. Præparat. sect. 10. de Phœnicum Theologia*; he is supposed more ancient than *Moses*, but we have nothing authentick existing which he wrote: The ancientest Historian of the Affairs of *Egypt* was *Manethes* the *Egyptian* Priest, who lived about, or as some think, before the time of *Alexander*, he carries up the *Res Egyptiacas* to an excessive Antiquity, and yet with great particularity and pretended certainty: some account him fabulous, because he carries up the *Egyptian* Dynasties before the Flood, yea and long before the Creation; others assert the probability of the *Egyptian* Dynasties to over-reach the universal Flood, but save that prodigious excess of their numerous Years by reducing them to Months, or *Anni Lunares*, which were anciently so accounted among the *Egyptians*.

The *Egyptians* have had other Writers of their Histories, but of a later date, as *Ptolemæus Mendesium*, mentioned sometimes by *Eusebius*; and those *Arabick* Historians mentioned by *Kircher* in that Book that delivers the History of the succession of their Dynasties.

Lastly, I come to the *Jewish* History begun by *Moses*, and continued down in a clear succession and series of times till their return from the *Babylonish* Captivity and this History hath a just prelation above all the Writings of other Historians in these ensuing respects.

1. It hath the greatest and most particular certainty, and far beyond any of the Historians before mentioned; it contains the certain Periods of Times, Names, Men, Places, Actions, and all Circumstances requirable
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in a History to inform; it is not involved in Myſtical expreſſions or Mythologies, but is plain, familiar, and intelligible.

2. It hath the greateſt evidence of Truth that can be expected by a reaſonable man, namely, Evidence from it ſelf, the particularity and circumſtances of the things it relates; Evidence from the ancienteſt Heathen Authors, eſpecially *Sancuniathon*, *Beroſus*, and *Abydenus* before mentioned; Evidence from the ſeveral parts thereof, the Book of one Age bearing witneſs to another; as the Books of *Joſhua* to thoſe of *Moses*, the Books of *Kings* to thoſe of *Moses* and *Joſhua*, though written in ſeveral Ages; *Evidentia rei*, or *facti*, there cannot be greater Evidence than the Regiment of a People for ſo many Ages according to the Laws given and recorded by their firſt Hiſtorian *Moses*, and the enjoyment of their Poſſeſſions according to the diſtribution of their next Hiſtorian *Joſhua*.

3. It is no broken Piece, or Hiſtorical Fragment, but it is carried down from the beginning of Time to all the enſuing Ages of the *Jewiſh* State, without any *chaſma* or interval.

4. It hath the evidence of the higheſt credibility that any thing of that nature is capable of, That the Books of *Moses* eſpecially, which are the *Cyptuſe Hiſtorie Judaice*, were written by that Man *Moses*, and that he lived in that Age wherein he is ſuppoſed to write: 1. The conſtant uninterrupted Tradition of that Kingdom and Nation from it firſt coalition, even to this day. 2. The attestation of all the ſucceeding Writers of that Hiſtorical Series of the *Jewiſh* Affairs. 3. The inviolable Obſervation of thoſe Laws given by *Moses* and recorded in that Hiſtory, as of the Laws given by him. 4. The Suffrage of all Heathen Authors both modern and ancient, that have occaſion to mention the concerns of that People.

5. It is a Hiſtory that contains matters of far greater moment and antiquity than any other Writers but ſuch as in probability made their Collections out of it, namely, of the Tranſactions from the firſt Creation of the World until the Univerſal Flood, and from thence to the time of him that firſt wrote it, namely *Moses*.

6. It is a Hiſtory that was really written by *Moses*, who was far more ancient than all the Heathen Writers above mentioned (excepting only *Trimegiſtus*, of whoſe Writings we have nothing extant) and more ancient than moſt of thoſe Things or Notes recorded by thoſe moſt ancient Heathen Writers which for the moſt part filled their Books: He wrote 540 years before *Homer*; 200 years before *Sancuniathon*, according to *Bochart's* account; 300 years before the Expedition of the *Argonauts*; 350 years before the *Trojan War*; and a conſiderable time before the *Apotheoſes* or Inaugurations of many of the Heatheniſh Deities. So that as the Matter of his Hiſtory, ſo the Time of his writing is far more ancient than the writing of the moſt ancient Heathen Hiſtorians that are at all extent. Much of this I ſhall have occaſion to reſume and enlarge in the enſuing Chapters, yet this was neceſſary in this place.

The Inference that is made from hence is, That probably if the World of Mankind had been Eternal, or if it had any ſuch vaſt diſtance from its Beginning as ſome ſuppoſe, we ſhould have had Hiſtorical Monuments and Writings long before the Age of *Moses*.

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But for all this, I must needs say, this Consideration singly (I say singly) taken and weighed, maketh not much against an eternal or at least a vaster *Epocha* of the first Origination of Man than is ordinarily supposed; I shall therefore set down those allays that make against the strength of the consequence drawn from this Topick.

1. It is evident that the use of Letters and Writing were far more ancient than the time of *Moses*; the *Egyptians* and *Phenicians* carry up the original of the invention thereof to *Mercurius Trismegistus*, which is supposed long before *Moses*: And although *Cadmus* is supposed to have brought the use of Letters out of *Phanicia* into *Greece* some time after the Age of *Moses*, according to *Polydore Virgil*, lib. 1. cap. 6. out of *Pliny*, *Heraclotus* and others; yet it appears by what is before mentioned, that there were in *Phanicia* very ancient written Volumes called *Volumina Ammonaeorum* long before the time of *Sancuniathon*. And if we believe the Tradition of *Josephus*, the Pillars of *Seth* were extant in his time; and according to *Tertullian* some Fragments of the Writings of *Enoch* were traditionally extant in his time: But howsoever *Moses* (if he be the Author of the History of *Job*, whom some think to be contemporary at least with *Jacob*) mentions Books and Writings to have been common things in the time of *Job*, *Job* 19. 23. *Josephus* lib. 1. cap. 3. *Tertull.* de *Habitu Mulierum*.

2. Surely if Writing were so ancient, it is probable that many Histories might be before the time of *Moses* which were lost in succession of time, as it must be agreed that most of those ancient Monuments that in the granted Period of the World were extant before *Moses* time are since lost, and many millions of Books that have been written since *Moses* time have by the injury of Time and Men been lost; much more those Books which were written antecedent to *Moses* time: And the truth is, the preservation of the Books of *Moses* entire unto this day, when so many of a far later date are lost, is to be attributed to the special Providence of Almighty God.

2. Again, they that assign the shortest time between the Origination of Mankind and the Writings of *Moses*, allow it to be somewhat above 2460 years: So that although *Moses* were admitted the first Historian that ever wrote, it would very near as strongly conclude against the antiquity of 2460 years before his writing as against an eternal existence of Mankind: if it should be an Argument against the latter, it would be such also against the former.

3. Considering the many mutations and casualties of Wars, Transmigrations, especially that of the General Flood, there might probably be an obliteration of all those Monuments of Antiquity that immense Ages precedent at some time have yielded. *Cecrops* was contemporary with *Moses*, and *Belus* and *Ninus* were before him; yet we have no Monuments extant of the *Assyrians* so ancient as *Belus*, or of the *Athenians* so ancient as *Cecrops*, but such as are Traditions, and written long after their times. So that although I have mentioned this concerning the known Periods of Historical Writers, yet I think we are to be careful not to lay too great a stress singly on it, and it is the least of all that follow in weight or evidence: And yet this was fit to be mentioned, because it is necessary for the more clear discovery and application of that which follows.

C A P.

C A P. III.

The second Evidences of Fact, namely, the apparent Evidences of the first Foundation of the greatest and ancient Kingdoms and Empires.

I Come to my Second Evidence of Fact, which is the subject Matter of Histories, and principally concerning the Evidence arising from them of the first Original of the most considerable Monarchies in the World.

Touching the great Monarchies of the World, their Original is so well known, and delivered down to us from Authors of unquestionable truth, that there need little be said touching them; for they have their confessed *Epocha* within certain and known Periods. As the beginning of the *Roman* Monarchy under *Romulus*, which gives the *Epocha Urbis condita* in the 7th Olympiad; the beginning of the *Grecian* Monarchy, which hath its *Epocha* in *Alexander* about the 111th Olympiad; the beginning of the *Persian* Monarchy, which had its *Epocha* in *Cyrus* about the 55th Olympiad; though the same were not established in the beginning of *Cyrus*, but completed in *Cambyses* his Son about the 62^d Olympiad. And the like might be observed concerning several smaller Kingdoms, whose originals are delivered over to us in Histories.

And although it is true that these Beginnings of these several Monarchies and Kingdoms do not so begin as if those Men that founded these Monarchies were the natural Fathers of all those Persons that did *coalescere in Regnum vel Monarchiam*; or as if those Monarchies were derived from the Heads or Roots that gave them this denomination, as all Men are derived from the common Parent of Mankind, or as possibly some other of the ancient Monarchies, which we shall have occasion hereafter to mention, were derived: For many times the beginning of Monarchies and Kingdoms was by the coalition of many Persons, it may be of several Nations, into an Army, as they did under *Cyrus*, or into a City, as they did under *Romulus*, or by transmigration of Persons from one Countrey to another, as the *Israelites* did.

And therefore we are not to take it that these Originations of Monarchies were the Origination of all the People that were joyned in it; for they had their existence oftentimes before, and took their denomination from the *Dux Exercitus* or the *Rector Civitatis*, under which they were as it were lifted in their Civil or Military coalition.

And therefore the Argument is not thus necessarily that the *Roman* Monarchy or the *Grecian* Monarchy had not its beginning before such a time, therefore those Men that were the constituent parts thereof had no existence before that time; but that the Civil Society under the Prince, Rector or form of Government then began to be formally such in such a special Constitution.

But those Monarchies that pretend to the greatest Antiquity are principally,

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1. The *Assyrian* or *Babylonian* Monarchy.
2. The *Egyptians*, and their Dynasties.
3. The *Grecians*.
4. The *Chineses*.

These I shall examin in order.

1. Touching the *Assyrian* or *Babylonian* Monarchy, we do with the best authority both of Sacred and Prophane Writers suppose,

1. That it had its beginning since the Universal Deluge from *Ham* the youngest Son of *Noah*.

2. That the Reasons and Authorities against that Supposition are not of weight enough to evince the contrary.

Before I come to my Reasons for this Assertion, something I shall premise touching the *Assyrian* Empire, and how it stood in relation to that of the *Babylonian*.

It seems that *Babylon* was at first the Seat of the *Assyrian* Empire, the building whereof some attribute to *Belus*, some to *Ninus* his Son, some to *Semiramis* his Wife, and some to others: but afterwards the *Caput Imperii* of the *Assyrians* was *Ninive*, built upon the River *Tigris*.

It also seems, that in process of time the *Assyrians* either new built or repaired *Babylon* that had lain long neglected, and the same was peopled with those People on the South of *Assyria* called *Caldeans*: That which gives me light of it, and indeed of the whole History of the *Babylonian* Monarchy is *Isaiah* 23. 13. Behold the land of the *Caldeans*, this people was not till the *Assyrian* founded it for them that dwell in the wilderness: They set up the towers thereof, they raised up the palaces thereof. It seems therefore that *Babylon* formerly neglected, by this favour of the King of *Assyria* prospered into a petty Kingdom, and growing powerful did set up for themselves in the time of *Ahaz* the King of *Judah* who was contemporary with *Tiglah Pileser*, 2 *Kings* 16. 10. And possibly the first divided King of *Babylon* was that *Nabonassar* that gave the original of the *Æra Nabonassar* that began about the beginning of King *Ahaz*, in the beginning of the 8th *Olympiad*, about four years after the Building of *Rome*.

It seems that either the same *Tiglah Pileser*, or his next Successor *Salmanassar* King of *Assyria* that carried away the People of *Israel* in the ninth year of *Hoseah*, about four years after the death of *Ahaz*, 2 *Kings* 17. 6. did afterwards re-take *Babylon*; for certainly he was possessed of it at or shortly after the deportation of *Israel*; for he brought Men from *Babylon*, from *Cutha*, from *Ava*, *Hamath* and *Sepharvaim*, to put into *Samaria*, 2 *Kings* 17. 24.

It seems that most of these places from whence People were transplanted to *Samaria*, were places conquered by the *Assyrian* Monarch, who did as *Victors* use prudently to do, transplant the conquered into other places; and the same seems evident for some of these places at least, and as probably for *Babylon* also, 2 *Kings* 18. 24. *Isaiah* 10. 10. particularly for *Hamath*, *Sepharvaim* and *Avah*: And accordingly he transplanted the conquered People into *Gozan* and other places, 2 *Kings* 18. 11. which were won by *Salmanassar* from the *Medes* by Conquest. 2 *Kings* 19. 12.

Senacherib succeeded *Salmanassar*, and came up against *Hezekiah* in the fourteenth year of his Reign, where he received that great blow of 185000 Men,

Men, which sent him back to *Nineveh* where he was slain, and *Ezarahaddon* his Son reigned in his stead. *2 Kings* 20. 35, 36, 37.

This gave opportunity to the new usurped Kingdom of *Babylon* again to break the Yoak of *Assyrian* Monarchy; for it evidently appears that *Berodach-Baladan* the Son of *Baladan* was King of *Babylon*, and sent to complement *Hezekiah* when there was another King of *Assyria*, *2 Kings* 20. 12. *Hezekiah* having reigned 29 years dyed, and *Manasseh* his Son succeeded him.

Manasseh reigned 55 years, and towards the latter end of his Reign he was carried Captive to *Babylon* by the King of *Assyria*, *2 Chron.* 33. 11. whether the King of *Assyria* had regained *Babylon*, or whether the King of *Babylon* had overcome the *Assyrian*, and so held the stile of that Monarch, appears not, though the latter seems probable by comparing the reprehension of *Isaiab*, *2 Kings* 20. 17.

Ammon succeeded, and reigned 2 years.

Josiah succeeded, and reigned 31 years.

Jehoahaz 3 months.

Jehoiachim 11 years.

Jehoiachin 3 months.

Zedekiah 11 years; the last year of whose Reign was contemporary with the 19th year of *Nebuchadnezzar*.

Now putting all the years together from the first of *Ahaz* to the last of *Zedekiah* are about 155 years and 6 months; out of which subducting 19 years for the Reign of *Nebuchadnezzar*, there remains from the first of *Ahaz* to the first of *Nebuchadnezzar* 136 years, which comes very near to the *Era Nabonassar*; for according to the common Calculation the first of *Nebuchadnezzar* hapned in the 138th year of *Nabonassar*, which began about two years before the first year of *Ahaz*; or in the second year of the 8th *Olympiad*.

And that in all probability, *Baladan* who was the Father of *Merodach-Baladan* that sent to visit *Hezekiah*, might be that *Nabonassar* whose *Era* is so much celebrated.

After the beginning of the Reign of *Nebuchadnezzar* the entire *Assyrian* Monarchy was translated to *Babylon*, and *Nebuchadnezzar* the King thereof. *Herodotus* in his First Book tells us that *Cyaxares* the Grand-child of *Dioces* first attempted the taking of *Nineveh*, but was repulsed by the aid of the *Scythians*; and that afterwards he took it, and became Master of all *Assyria*, *Excepta Babylonica quadam portione*.

But according to the Histories of *Tobit* and *Judith*, *Nineveh* was taken by *Assuerus* and *Nebuchadnezzar*, and afterwards entirely possessed by *Nebuchadnezzar*, *Tobit* 10. 17. *Judith* 11. But this is obscure, because it hath been conceived that *Nebuchadnezzar* was a common Name used amongst the *Babylonian* Kings, as *Pharaoh* among the *Egyptians*; only it may not be impossible that *Nebuchadnezzar* who was certainly contemporary with *Cyaxares* the *Mede*, might be an assistant in the Destruction of *Nineveh* with *Cyaxares*, called it may be by *Tobit*, *Assuerus*; but how he came to be sole Possessor after in the time of *Judith*, is hard to unravel.

This *Nebuchadnezzar* made *Babylon* the Seat of his Empire, and so far enlarged it that it seemed as new built, as his own arrogant and vain-

vain-glorious expreffion witneffeth; *Is not this great Babel that I have built?* Dan. 4. 30.

Upon all this that hath been faid, it feems plain:

1. That *Babylon* or *Babel* was the firft or ancient Seat of the *Affyrian* Empire.
2. That the fame was firft built by *Belus*, or *Ninus*, or *Semiramis*, as the Heathen Writers tell us, or by *Nimrod*, as the Holy Hiftory tells us, who poffibly might be the fame with *Belus*.
3. That afterward the Seat of the *Affyrian* Empire was tranflated to *Nineveh* the great City of that Empire.
4. That afterward *Babylon* was again either repaired or enlarged by the *Affyrian* Empire, and was the *Metropolis* of that part of *Affyria* called *Caldea*, the Inhabitants whereof were greatly addicted to the Celeftial Obfervation, and became fo famous for it, that a *Caldean* and an *Aftrologer* were terms equivalent in common appellation.
5. That afterward the *Babylonians* or *Caldeans* obtained or ufurped a divided Kingdom from the *Affyrian* Empire.
6. That the firft King of that divided Kingdom was called *Nabonaffar*, which give the original to the *Ara Nabonaffaris*, beginning about the 8th *Olympiad*.
7. That about 140 years after the beginning of that Kingdom it grew fo potent, that it acquired the whole *Affyrian* Monarchy, and became the Seat thereof under *Nebuchadnezzar*.

8. That *Nebuchadnezzar* again enlarged the City of *Babylon* with Buildings and Walls of incredible ftrength and glory.

This being premifed, I now come to thofe Reafons that fatisfie me that the *Affyrian* or *Babylonian* Monarchy was not of that great Antiquity that the *Babylonians* and the favourers of their Tradition pretended, but had its known Original or *Epocha* from whence it began.

1. The Authority of the Heathen Authors allow not above 1400 years at moft for the continuance of the *Affyrian* Monarchy, and lodge the Original of it in *Belus* the Father of *Ninus*, the beginning of whole Reign is by computation to be caft in the 153^d year after the Flood, according to the *Jewifh* Account. *Vide probationes inde Petavii doctrina temp. l. 9. per totum.* The Account, according to *Diodorus Siculus*, runs thus; The *Affyrian* Monarchy beginning with *Ninus* lafted 1360 years unto the fall of *Sardanapalus* by *Arbaces* the *Mede*, after which that Monarchy fell in with the *Mede*: it continued there until *Pul* became the Head of the *Affyrian* Monarchy, and after him *Tiglah Pilefer*, and then *Salmanaffar*, and afterwards *Senacherib*: The Proof they add to this Supputation is this; That from the Fall of *Sardanapalus* to the Taking of *Babylon* by *Alexander* are accounted 543 years, which added to the former number gives 1903 years, the *Epocha* of the *Caldean* *Aftrological* Calculation brought by *Califthenes* to *Aristotle* at the Taking of *Babylon* by *Alexander*; which cafts the Beginning of the *Affyrian* Monarchy under *Belus*, or at leaft under *Ninus* his Son, to be about the year of the World 1717, about 60 years after the Flood, according to the *Jewifh* Account; though others, following alfo the *Jewifh* Account, caft the fame to be about 104 years after the Flood.

But *Africanus*, and others that follow the Account of the 70 *Interpreters*, tell

tell us of seven Kings of the *Caldeans*, and six Kings of the *Arabians* that were antecedent to *Belus* in that Empire, that successively reigned in *Babylon* 440 years; that *Belus* obtained by Conquest the Kingdom, and reigned 55 years; and by this Account the Beginning of the *Assyrian* Kingdom under *Ninus* was 631 years after the Flood, and one Age after the Confusion of Languages in the time of *Phaleg*: But which way soever we take, yet we find a Beginning of the *Assyrian* Empire, though they that suppose it 440 years before *Belus*, thrust the Deluge and the Creation farther back than the *Jewish* Account.

2. The Authority of the Holy Scripture by the Pen of *Moses* gives us the Original of the *Babylonian* or *Assyrian* Monarchy in *Nimrod*, which possibly may be the Name in *Hebrew* of *Belus* the first Founder of it. And here I do not take advantage of the Divine Authority of the Sacred Scripture, but make use of it only as a History, and singly upon that account hath greater evidence of its truth than any *Heathen* Historian whatsoever. 1. The Writer thereof was most certainly nearer the times of the first Foundation of that Monarchy by above 800 years than any other Historian that gives us the account of the *Assyrian* and *Babylonian* Monarchy, which is a great advantage in point of evidence touching the truth of any Historical Relation. Again, 2. He was not very far distant from the Place or Seat of that Monarchy, the *Wilderness* and *Palestine* being not far distant from *Assyria*. 3. He was descended from him that was the native of that Country, namely *Abraham*, who was born and lived many years in the *Caldean* Country, and doubtless did bring along with him and transmit to his Posterity a fair Tradition of that Empire, being contemporary with *Peleg*, in whose time the famous dissipation of Mankind and distinction of Languages hapned. 4. He was educated in *Egypt*, the people whereof were greatly learned, especially in Chronological Computations. 5. The coherence and synchronism of all the parts of the *Mosaical* Chronology, especially after the Flood, bears a most singular testimony to the truth of his History and Computation: for although he draws not down the lineal Descendants of *Ham* and *Japhet* down to his time, but only mentions their Children and Grand-children for two or three Generations at most, yet he draws down the lineal Pedigree from *Sem* in the Sacred Line down to his very Age, together with their Births and Ages, which are a great evidence of the probability of the rest of his Account. So that if we take the History of *Moses* upon a bare Moral account, abstracted from the Authority of Divine Revelation, he hath greater evidence of the truth of what he relates than any Historian whatsoever that takes upon him the narrative of the Antiquity of Kingdoms or Empires, the ancientest of which Historians were above 1000 years later than *Moses*. But this I shall have occasion farther to improve hereafter.

The Objections against this late Original of the *Assyrian* or *Babylonian* Monarchy (for it had its successive translation into these denominations) are principally these:

1. That it appears by the Account of ancient Historians, that the *Caldeans* (in whom the *Assyrian* Monarchy began and ended) at the Taking of *Babylon* by *Alexander* had preserved Astronomical Calculations for about 400000 years; thus *Diodorus Siculus*, lib. 3. cap. 8. *Quadringenta*
tria

tria annorum millia usque ad ascensum Alexandri numerant; and *Tully* in his second Book *de Divinatione* mentions the number to be greater, *Quadringenta & septuaginta millia annorum, in periclitandis experiendisque Pueris quicumque essent nati, Babylonios posuisse.*

2. That it seems impossible, that if their Monarchy began but in *Nimrod*, or so short a time after the Universal Deluge, that in the time of *Ninus*, by some supposed the first, by some the second King of the *Assyrians* or *Babylonians*, the Empire could have grown so populous as to build that vast City of *Babylon*, and that of *Nineveh*, whose state and magnificence and amplitude were of incredible greatness; or that his Widow *Semiramis* could at once bring into the field against *Zoroastres* an Army of 1700000 Foot-men, 500000 Horse-men, 100000 Chariots, 2000 Ships, as *Diodorus Siculus* out of *Ctesias*, l. 3. cap. 5. And therefore as well Mankind as the Empire of *Assyria* must have had a longer continuance to have set out such an Army, than the succession of an Empire for two or three Governours at most, or the successions or propagations of Mankind within so short a time as this is supposed to succeed the Universal Deluge, could afford. To the first I answer:

1. That some will have these Years to be but Months, which they suppose to be accounted Years by the ancient *Babylonians* and *Egyptians*: But as we have no certain evidence that they used to account a Month a Year, but if we had, yet that reduction will not serve; for that number of Lunar Months reduced to Solar Years will arise to above 40000 Years, which will over-reach the Creation of Mankind.

2. Therefore we may with the same *Tully* and *Diodorus Siculus* pronounce it to be an incredible and fabulous Account warranted by no credible evidence, but meerly their own fancy or imposture; that because they held the World eternal, would gratifie their people with a succession of an incredible Antiquity. And it appears to be fabulous, 1. For that in all this time they would probably have gotten the perfect Theory of the Planetary Motions and Positions, which it is plain they did not, if we believe the same Author; for they were at a loss touching the true discoveries and periods of the Eclipses, especially of the *Syn.* 2. For that *Calisthenes*, who was very curious in searching the famous Periods of the *Babylonian* or *Caldean* Celestial Observations, at the very time when they pretended so great an Antiquity, namely, at the Taking of *Babylon* by *Alexander*, upon a strict enquiry found their Astronomical Observations not to be above 1903 years old, which he accordingly reported to *Aristotle*, that employed him specially in that Enquiry, as *Simplicius* reports in his Commentaries upon the Book of *Aristotle de Cælo*. The prodigious Accounts therefore of the *Caldeans* of the Times past deserve as little credit as their Predictions of things to come, who, as the same *Tully* there observes, flattered both *Cæsar* and *Pompey* with long Lives and happy and peaceable Death; both which fell out in the success, to both extremely contrary.

2. I come to the second Objection, namely, That it seems altogether impossible that the General Flood should put a period to all former Governments, and indeed to the whole Race of Mankind except eight persons, and yet that from these in so short a time such vast and powerful Monarchies, especially as that of the *Babylonian* or *Syrian* should arise. To which I answer:

1. That

1. That if we should admit the Computation of the *Seventy*, now much magnified by *Vossius* and others, it would easily deliver us from that difficulty; for whereas the *Hebrew* Computation gives the Universal Flood to be but 1656 years after the Creation of Mankind, the *Septuagint* gives it to be 2262 years: and whereas the *Hebrew* Account gives us about 300 years from the Flood to the Birth of *Abraham*, and consequently about 104, and according to some only 58 years from the Flood to the beginning of *Ninus* the Son of *Belus*, the *Septuagint* gives us from the Flood to the Birth of *Abraham* 1132 years; and consequently the beginning of *Ninus* though admitted to have been about 250 years before the Birth of *Abraham*, would yet have hapned near 800 years after the Flood, which would not only give a competent time for Mankind to grow to that great multitude that is supposed, but would satisfy those preceding thirteen Kings in *Babylon* that are supposed to have worn out 440 years before the the beginning of *Belus* the Father of *Ninus*.

2. But the Objection needs not that help, neither doth enforce us to desert the *Hebrew* Account to satisfy that or the like Objections. For considering the long Life of the Ancients that lived within 300 years after the Flood, and consequently their coexistence with those that descended from them; we may without the help of a miraculous fertility find that in 104 years Mankind descended from *Noah* and his three Sons and their Wives, might arise to a stupendious multitude by that Arithmetical Progression that would be found in their Generations. I shall not need to set down the process of the Computation or the product, it is excellently done to my hand by *Temporarius* in his second Book *Chronologicarum demonstrationum*, and out of him by *Petavius* his *Doctrina temporum*, lib. 10. and out of both by *Kircherus* in the first Book of his first Tome of his *Oedipus Aegyptiacus*, where he undertakes, that in the progress of 200 years after the Flood the multitude of the coexisting People might be so great, that if they were cast into a square *Battalia*, allowing to every person but one square foot of ground, the side of that Square would be 372 Astronomical miles, or 25 Heavenly degrees. And thus far touching the Original of the *Assyrian*, *Caldean*, or *Babylonian* Monarchy.

2. Touching the *Egyptians*, they maintained the Origination of Mankind, and that the same was not Eternal, as it seems by *Diodorus Siculus* in his second Book; for they supposed, in respect of the fruitfulness of their soil and the convenience of their situation, that the first Original of Mankind was among them, and that the *Egyptians* were the ancientest People in the World.

But though they admitted the Origination of Man, yet they pretended to a very great antiquity of their Nation and Government; and because they would exceed all others, they suppose their first Governours were Gods: *Diodorus* tells us, that in the 180th *Olympiad* they pretended a succession of Government of 33000 years, whereof the first 18000 years they were governed by Gods and Heroes, and the last 15000 years by Men.

Manetho, that wrote the History of the *Egyptians* about the beginning of the *Grecian* Monarchy under *Alexander*, with very great pretence hath carried up their Government to an incredible distance before the Creation

of Mankind; for he digested the successive Governments of the *Egyptians* into 32 Dynasties, and to each Dynasty a great number of Governours and Years, whereof 15 exceeded the time of the Flood, and therefore are omitted by *Africanus* and others that yet are fond of the credit of *Manetho*: the other 17 Dynasties are supposed to be extended unto the beginning of the *Grecian* Empire for about 1694 years after the Flood.

But 1. This Account, even of *Diodorus Siculus*, is very uncertain; for it appears by *Censorinus*, *de die Natali*, cap. 19. that the ancient *Egyptian* year was *bimestris*, and after that *trimestris*, and after that, in latter time, of 13 months and 5 days: And some tell us, that yet their most ancient year was but one month, namely, one revolution of the *Moon* through the *Zodiack*; which if it should be admitted, may shorten their Account of 33000 years to 3600 years or thereabout. But yet this Answer serves not, for in all probability their years continued to be 365 days ever since the time of the *Jewish Exody* at least, which will carry up the Account far beyond the Creation of Man, though their former years should be supposed *menstrui* or *bimestres*.

Therefore it seems either a plain Imposture of *Manetho*, out of an emulation of the pretended Antiquity of the *Babylonian* Monarchy, or at least a very plain mistake, by reckoning all these 32 Dynasties or *Principatus successivè*, when it seems they were all contemporary, and that after *Mene*, which is supposed the first Head of these Dynasties, the Regiment of *Egypt* was divided into several Principalities, and each had his Dynasty, but the particular Regiment of each several Principality, *Mene* being the Head to them all; which is so well evinced by *Vossius* in his little Tract *de Ætate Mundi*, out of *Eratosthenes* contemporary with *Manetho*, *Herodotus* and others, that nothing can be added to it, or reasonably objected against it; though *Kircherus* in the first Book of his *Egyptian* Antiquities endeavours to carry on the 17 last Dynasties in continued succession from *Cham* to the dissolution of the *Egyptian* Monarchy by *Alexander*; and supposeth the first 15 Dynasties to have incurred before the Flood, and the traditional memory thereof derived down by *Cham* to his Posterity. But of this also more hereafter.

Touching the *Grecians*, it is true, the *Grecian* Monarchy had its known *Epocha* in *Alexander* about the 114th *Olympiad*: but they were a People long before, though divided into smaller Kingdoms or States; but the Memorials of the *Babylonians* and *Egyptians* were far more ancient than those of *Greece*, which derived much of its Learning from the *Egyptians*. *Censorinus* in his golden Book *de die Natali* gives us out of *Varro* a threefold Period of the *Grecian* Histories or Monuments or Times, Cap. 21. namely, 1. *ἄσκηλον* or *incognitum*, from the first Origination of Mankind (if it had an Original) *ad cataclysmum priorem*, or the *Ogygian* Flood: 2. *μυθικόν* or *fabulosum*, from the *Ogygian* Flood to the first *Olympiad*: 3. *Historicum*, from the first *Olympiad* until his time. For the first of these times, *Sive semper fuit, sive habuit initium, certè quot annorum sit non potest comprehendì*: for the second; *Non planè quidem scitur, sed creditur esse annos circiter mille & sexcentos*, though he reduceth it by his account to a shorter time; namely, 400 years from the *Ogygian* Flood to *Inachus*, and from him to the first *Olympiad* according to some 400, according to others 395, 407, or 417: I shall not trouble my self with the curious enquiry

enquiry into the number, or the different Account of Chronologers touching it: But within the compass of this *tempus judicium*, or *Periodus fabulosa*, hapned many of those Relations of the *Greeks*; namely, the Age of *Prometheus*, the Flood of *Dencalion*, shortly after the beginning of the Dynaſty of the *Athenians*, in the time of *Cretopus* King of the *Argives*; *Incendium Ida*, *Cadmus* and *Europa*, *Ganymedis raptus*, *Phaetontis incendium*, *Hercules Amphitryonis filius*, *Expedition Argonautarum*, *Bellum Trojanum* & *Reditus Heraclidarum*, *Ionica migratio*, and many other fine Stories that have furnished some of the Poetical Historians of after Ages.

But however *Censorinus* makes his Computation, *Inachus*, who was the first King of the *Argives*, though he were about 375 years after the beginning of the *Assyrian* Monarchy, and contemporary with *Isaac*, yet he began his Reign about 100 years before the *Ogygian* Flood, which hapned in the latter end of *Phoroneus* the Son of *Inachus* and second King of the *Argives*. So that *Inachus* was about 100 years before the *Ogygian* Flood, and about 1070 or 1080 years before the first *Olympiad* upon this account.

This then being, as it seems, the state of these Periods, there seem two Nations of the *Grecians* that pretend to greatest Antiquity, namely, the *Argivi* and the *Attici*.

The former had their beginning with *Inachus*, whether before or after the *Ogygian* Flood it will not be much of moment, but at least within 1070 years before the first *Olympiad*, which is the highest time that the *Grecians* pretend unto.

Touching the *Attici*, the *Grecian* Memorials give us no higher Account than of *Ogyges*, in whose time it is supposed the *Ogygian* Flood hapned in that part of *Greece* called *Attica*, and takes its name from him, namely, *Diluvium Ogygium*.

Out of this Kingdom arose the Dynaſty of the *Athenians*, about 200 years after the *Ogygian* Flood, wherein *Cecrops* was the first Governour contemporary with *Moses*; he first set up the Worship of *Jupiter*, as some report. And so we have the Original of the Government of the *Argives* in *Inachus*, of the *Athenians* in *Cecrops*.

It is true, the *Egyptian* Priest under the name of *Timeus* in *Plato* tells us a large Story of the Island of *Atlantis* far bigger than *Asia*, and that although now that goodly Island be lost and swallowed up in the Sea, yet the *Athenians* were a kind of Colony transplanted from that Island into *Greece* about 7000 years before *Solon's* time. But this is one of those Poetical Fictions wherewith *Plato* plays, mingling more serious things with it in the following part of his Discourse; and the Story hath no footsteps of any evidence for it, unless we shall suppose that *Atlantis* to be an Island that was before the Universal Deluge, and destroyed by it.

4. Concerning the *Seres* or *Chineses*, a People whose Customs and Histories were strangers to *Europe* till of late times, wherein some Travellers have lately given us some account of those great Periods both of their Histories and Government: *Vossius* in that little Book *de Aetate Mundi*, tells us by relation from others, That by their Histories and Monuments their Empire hath lasted 4505 years in the year of Christ 1658; which reacheth some Ages beyond the Flood according to the *Hebrew* Account, but according to the *Septuagint* the beginning thereof falls in the time of *Phaleg*, 531 years after the Flood; which he brings as an

Argument for the Authority of the *Septuagint*: But the truth is, we are still strangers to the true state of Chronology of the *Seres* or *Chineses*, what we have touching it, is by broken relation of some few Travellers, and what they had, possibly may be gathered up from the vulgar Traditions of that People, upon which little of sound conclusion can be made touching their Antiquity. But be it true or not, which we have from these Relations, yet their longest Period gives them a Beginning, and reacheth not so high as the pretended *Epoch* of the *Babylonians* or *Egyptians*, much less is there any thing in them that gives any colour of Evidence of an Eternal Duration.

And thus I have gone through the Examination of those Kingdoms and Monarchies which pretend to greatest Antiquity, the *Babylonian* or *Assyrian*, the *Egyptian*, the *Grecian*, and the *Seres* or *Chineses*; upon all which we may observe,

1. That though many of them pretend to a very great Antiquity, yet there are none that give us any sufficient Evidence of an Eternal Duration; for what are those Periods of the *Egyptians* or *Babylonians* to Eternity? Nay many of these Nations that pretend to the longest continuance, as the *Egyptians* and *Grecians*, yet disclaim an Eternal Succession; pretend themselves to be *Aborigines*, and to be the first People, but yet not to be Eternal. Indeed their vast continuance, if admitted, would seem to contradict the Authenticalness and Authority of the *Mosaical* History, which contains a Relation of the Beginnings of Mankind within the compass of about 5660 Years, according to the *Hebrew Account*, and about 7240 Years, according to the *Septuagint*; but doth not so much as suppose an Eternity thereof.

2. That notwithstanding these great pretensions of Antiquity, yet upon a true examination their great pretended Antiquity is fabulous; and the Origination of their Monarchies began some Ages after the general Deluge; and so the truth of the Holy History concerning the Inception of Mankind, and the Inception of all the Monarchies in the World after the Deluge that happened under *Noah*, 1656 Years after the Creation of Mankind, is not at all weakened by those Fabulous Antiquities of the *Babylonians*, *Egyptians*, or *Grecians*.

3. That this Inception of the Notable Empires and Kingdoms of the World, even of those that pretend greatest Antiquity, and the termination of the uttermost Extent of the Histories of the *Babylonians*, *Egyptians*, and *Grecians*, within the compass of the Extent of their pretended Monarchies, is an Evidence against the Eternity of Mankind; for had Mankind been Eternal, they had infinite Ages since arrived to all the perfection of Political Government, and to all those Means and Arts for the preserving the Memorials of things past, as they have now attained unto; there would have been no *tempus ædificæ*, or *obscurum*, among the *Grecians*, but there would have been as fair Monuments and Historical Narratives of things past, before the *Olympiads* or the *Ogygian Flood* (which was not universal) as after. I shall conclude therefore with *Lucretius*, lib. 5.

*Præterea, si nulla fuit genitalis origo
Terræ & Cæli, semperque æterna fuerunt;*

Cur

*Cur supra bellum Thebanum & funera Troja
 Non alias alii quoque res cecinere Poeta,
 Qui tot facta virum toties cecidere, neque usquam
 Aeternis fama monumentis insita florent?
 Verum ut opinor habet novitatem summa, recensque
 Natura est mundi, neque pridem exordia cepit:
 Quare etiam quadam nunc artes expoliuntur,
 Nunc etiam augeantur, &c. —*

But yet this Consideration touching the Antiquity of Monarchies, their Inception, and the Narratives and Historical Monuments of things, happening within the Periods of their Commencement and Continuances, are not of that weight that we can lay the stress of this *Hypothesis* of the Inception of Mankind upon: And therefore this Consideration must be taken with its alloy, I shall therefore fully set down those Instances that do give this Consideration its due abatement.

1. It is no Consequence, That because a Monarchy or Kingdom had its Beginning, that therefore the People that constituted the *Moles* of that Kingdom had its Beginning: Kingdoms, Monarchies, and States, often change their Governours, and the Forms of Government, and their Stiles and Denominations, as the Silk-worm doth his shape, and yet the People in a continued succession the same. *Rome* took its Name from *Romulus*, but the People were a *Farrago*, collected and gathered out of the neighbouring Nations. *Greece* fell into one Monarchy under *Alexander*, yet the People (that were the Stuffing, as it were, and Materials of that Monarchy) were existing before in other Forms of Government, and under other Governours. And though it is by some supposed, That the *Assyrian* Monarchy began in *Ninus*, yet *Diodorus* out of *Ctesias* tells us, That he made up that great Structure of the *Assyrian* Monarchy by the Conquest of divers People, who thereby were added to it, as the *Egyptians*, *Phenicians*, *Syria*, *Cælicia*, *Pamphilia*, *Lydia*, *Caria*, *Phrygia*, *Mysia*, and many more, mentioned by him, *l. 3. cap. 1.*

England began not to be a People, when *Alfred* reduced it into a Monarchy, for the Materials thereof were extant before, namely, under the *Heptarchy*. So that the finding out of the Head of a Monarchy is not like the finding out the Head of a River in the Fountain, or the Head of a Family in one common Parent: The ancientest Monarchy might have a Beginning, and yet the People, that are the material constituent of it, might exist long before, under other Forms or Vicissitudes of Governments.

2. All Nations do not always begin their Histories, or the Matter, of the same Antiquity with the People touching which they write; but some earlier, some later, according to the variety of their Opportunities, Educations, and Disciplines.

The *Israelites* were certainly the most knowing People of the World, began early to record the Memorials of their own Times, and of those that anteceded them, delivered down by Tradition from the Patriarchs: Thus did *Moses*; and the Annals of that People are carried down to the very dissolution of their Government. The *Phenicians* began their Historical Monuments after them, the *Grecians* after them. The *Pelasgi* and *Attici* were

a Peo-

a People long before *Homer* wrote. *England* was doubtless Inhabited before *Cæsar* came over, yet we have few Monuments of *Britain* more ancient than *Cæsar* gives us; and from him, except *Beda*, we have few Authentical Histories by any known Historian before the Conquest by King *William*; but they have been all written since, or very near his time; and many of the things which they have put together touching the *Britains*, *Picts*, *Danes*, yea and the beginning of the *Saxons*, have been collected out of broken Monuments in Monasteries, and Tradition, and digested into *series* and order of times by those that have written long since the things done; by men that lived since the *Normans* came in, as *Henry* of *Huntington*, *William* of *Malmsbury*, *Roger Hoveden*, *Matthew Paris*, and others.

3. A third difficulty is this: That in those elder times there were not those means of preserving the Monuments of things past, as after times afforded; for whatever antiquity the World may be supposed to be, it is plain that Arts have increased and grown: Printing is a new Invention, and although Letters and Writing were ancient among the *Phenicians*, and from them derived to the *Greeks*, yet we must suppose they were not so perfect or so common in the elder Ages as in those that succeed them. And therefore those that contend for an Eternal succession of Men in the World, do suppose that by a kind of circulation or rotation Arts have their successive invention and perfection and tradition from one People to another; and consequently though some might be early able to deliver over Historical passages, as being better instructed in Letters and Writing, and more civilized than others, yet others attained it later: As the *Europeans* had their Learning from the *Asiaticks*, so the *Americans* have it from the *Europeans*, and yet the People of *Europe*, *Asia*, and *America* may be of equal Antiquity.

Besides all this, there have been many vicissitudes and changes whereby ancient Monuments and Histories have been lost: As 1. The Variation of Languages, or at least of the Characters wherein they were written, many things written in former Ages being scarce legible in after Ages, and so neglected. 2. Wars and Desolations hapning thereby, which obliterate many ancient Monuments. If by a kind of common stipulation or pact as it were, Monasteries had not had a kind of common Protection in the vicissitudes of the Conquests of *England* by the *Picts*, *Danes*, *Saxons* and *Normans*, we had had very little extant of ancient things. 3. Transmigrations of People from one Country to another, whereby they left their ancient Monuments behind them, which were neglected by them that succeeded them. 4. Floods and Inundations, especially in the parts of *Asia*, which swept away many ancient Monuments.

These are the Allays that are to be given to this particular touching the *Epoche* and Original of Monarchies, Kingdoms, and States, and the Monuments and Historical Relations of them or hapning in them, and to the weight of those consequences deduced or deducible from them, in order to the Argument in question touching the Origination of Mankind.

C A P.

CAP. IV.

The Third Instance of Fact proving the Origination of Mankind, namely, the Invention of Arts.

I Come to the Third Instance of Fact, namely, the Discovery and Perfecting of Arts, and the new Discoveries that later Ages have made of things that were not formerly known.

And this Topick consists principally of these parts; 1. That there have been such Discoveries of Things and Arts not formerly known: 2. That consequently the World, especially of Mankind, is of a far later Edition than Eternity.

Touching the former of these, it is very evident both by the Tradition of the Ancients, and also by our own unquestionable Experience, that very great Discoveries have been in several Ages made of Things and Arts that were hidden and unknown unto precedent Ages. I shall not trouble my self with those large Catalogues of profitable Inventions which have been successively discovered, when before they were not known, at least for ought appears to us; as the use of Husbandry, the making of Wine and Oyl, the discovery of the Letters of the Alphabet in successive Ages, Musick, Military and Civil Discipline, Engines of War, and Navigation: These and infinite more have been by the Industry of former Writers reduced to their several *Epoche* and Authors of their Discoveries, and some of the Authors have had therefore divine Honour given to them by the admiring Heathen. These several Inventors and Inventions are registred by *Diodorus Siculus* in his first six Books, by *Clemens Alexandrinus* in the first Book of his *Stromata*, by *Pliny* l. 7. cap. 56. and *ex professo* by *Polydore Virgil* in his eight Books *de Rerum Inventoribus*: In which and other Collections of that kind, although possibly there be many things that are fabulous, or grounded upon a very light and uncertain tradition; yet there are many things that are true or very credible, especially since the Monuments of ancient times give us an account of the most remote Ages of Men; *Rudes primum & incuria silvestri non multum à ferarum asperitate dissimiles*, *Macrobius in somnio Scipionis*, l. 2. cap. 10. see the elegant description of the elder Inhabitants of the World, *Lucret.* l. 5.

*Nec commune bonum peterant spectare, neque ullis
Moribus inter se scibant neque legibus uti.*

With which description of the elder World agrees *Plato* in his *Politicks*, *Nudi enim & sine stragulis magnam partem foris & sub dio vitam colebant*; and the same *Plato* in his third Book *de Legibus* supposeth, that those relicks of Men that escaped the ancient Deluges by flight into the Mountains became perfectly ignorant in process of time of those Arts and conveniences of humane Life; which possibly their Progenitors might have been better acquainted with.

But we need not go so far for a full conviction of that admirable Discovery and Improvement of Arts and other things, especially such as are necessary for humane Life.

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In matters Astronomical we have a far greater light than what was two thousand years since; for we find the old *Hypothesis* of the Heavenly System called since in question by *Copernicus*, *Galileus*, and *Kepler*; the solidity of the Orbs detected to be untrue, by the plain discovery of *Tycho Brahe* and others; the new discoveries of Stars and Asterisms, and their figures, by the help of the Telescope, demonstratively and to the sense.

In matters Philosophical many new Discoveries have been made by Experiences, whereunto the Ancients never attained: And although the Bodies of Men, Animals and Insects have been these many thousands of years exposed to the view and search of diligent Physicians and Anatomists, yet it is a wonder to see what new Discoveries have been made in Anatomical Dissections and Observations, which seem wholly hidden to the Ancients; as those of the Circulation of the Blood by Doctor *Harvey*; the *Vena lactea* by *Asellius*; the *Repositoryum Chyli* of *Pecquet*, with the method of its deduction into the *Vena cava*; the process of Generation and of the Formative actions; the curious Discoveries of the Parts and Faculties of small Insects, by the help of the Microscope, rendered by *Malpighius* and others.

Again, the great Discoveries that have been made by the means of Pyrotechny and Chymistry, which in late Ages have attained to a greater height than formerly.

Again, in matters Mechanical, although it be true that this latter Age hath not arrived to that incredible skill of *Archimedes*, yet Mechanical powers have been strangely improved, as we see in the late improvement of the late discovery of the Motion of the *Pendulum*, whereby the portions of Time are not only measured with an incredible exactness, but the use thereof translated unto Watches, Clocks, and other Engines; so we have high advancement of Dialling, Clocks, Pumps, Fountains and other Motions beyond the acquisitions of former Ages.

And although the Art of Navigation hath been very ancient, and the use of the Mariner's Needle, which some carry up to *Amalpes* an *Arabian* in the year of Christ 1360; others to the *Chineses*, and by them discovered to *Paulus Venetus*; others carry it up to King *David*: yet the Art of Navigation hath been since greatly improved, and many excellent Discoveries in relation to the Inclination and Variation of the Magnetick Needle. To these we may add the use of Guns, Gunpowder, and Printing, which though by some asserted to be of long use in *China*, yet in this Western part of the World the original of the Invention hath its known *Epocha*.

By these and many more Instances of the like kind it may appear, That many Inventions and Discoveries of things not only of curiosity but of use and convenience to Mankind have had their known and certain *Epochæ*, or a sufficient evidence of times when they were not used or known in the World.

2. The consequence of this Supposition seems to be this; That in as much as these had their discoveries within known Periods, it is not supposable that the successions of Mankind could have been without a Beginning, but rather that they had a Beginning within a reasonable time: for it is not conceivable that in an infinite, or indeed in a very long period of Revolutions of Mankind, those or any things of this kind discoverable would have been of so late and puerile a discovery: This is the

the Argument of *Lucretius*, who though an Asserter of the Eternity of Matter and Motion, yet together with his Master *Epicurus* asserts a Beginning of this World which we now behold, *Lib. 5.*

*Quare etiam quadam nunc artes expoliuntur,
Nunc etiam augeſcunt; nunc addita navigiis ſunt
Multa, modo organici melicos peperere ſonores;
Denique natura hac rerum ratioque reperta
Nuper -----*

And upon the ſame account *Macrobius l. 2. cap. 10. in Somnium Scipionis*; *Si enim ab initio, imò ante initium fuit mundus, ut Philoſophi volunt, Cur per innumerabilem ſeriem ſeculorum non fuerat Cultus quo nunc utimur inventus? Non Literarum uſus quo ſolo memoria fulcitur Eternitas? Cur denique multarum rerum experientia ad aliquas gentes recenti atate pervenit? ut ecce Galli vitem vel cultum olea, Româ jam adoleſcente, didicerunt; alie verò gentes adhuc multa neſciunt quæ nobis inventa placuerunt. Hæc omnia videntur æternitati rerum repugnare, dum opinari nos faciunt certo mundi principio paulatim ſingula quæque cæpiſſe.*

But although this Argument at the firſt view may ſeem to have much of evidence in it of the Origination of Mankind, yet it ſeems too weak to lay any great weight, at leaſt ſingly, upon it, as will appear by what follows; though in conſort with other Inſtances it hath its uſe and weight.

The Diſcovery or Invention of things may ſeem to be upon theſe, or ſome of theſe Methods.

2. It ſeems to me that ſome things have been diſcovered unto Mankind by a more immediate interpoſition of the Divine Providence, or the miniſtration of Angels; as for inſtance, the Medicinal Virtue of ſome Herbs, Vegetables, or Minerals, that lye not in the ordinary road of Experience, or analogical collection from Circumſtances, Signatures, or Obſervation.

2. Some things were diſcovered experimentally, though perchance not intentionally, or by deſign in the firſt diſcovery: And thus probably the Virtues of ordinary Simples came to be diſcovered; for the Food of Mankind being anciently Herbs and Fruits, or at leaſt of ſuch of Mankind who either through choice, cuſtom or neceſſity were driven to that abſtemious Diet, there did doubtleſs occurr the experience of various temperaments and operations of thoſe Herbs; ſome purgative, ſome emetick, ſome ſudorifick, ſome aſtringent, which gave Men opportunity of diſgeſting them into ſeveral ranks and uſes.

3. Some things were diſcovered *ex prænotis, & per viam rationalis diſcuſus*: Thus probably Men by the Signatures, Taſts and Colours of Herbs, bearing analogy to other things they knew, concluded fairly touching their Nature and Uſe, which by Tryal and Experience they improved into more fixed and ſtable Theorems and Concluſions: And upon this account alſo many Practical Arts, eſpecially relating to Numbers, Weight, Meaſure and Mechanifm had their production; for the Rudiments of Proportion being lodged in the Mind, they ſeem to have grown intentionally and *ex induſtria* into thoſe various practices of

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Arithme-

Arithmetick, Geometry, and Mechanicks resulting from those principles *per media processus rationalis*; and thus those practices of the Rules of Proportion, Mechanical Motions, Staticks, Architecture, Navigation, Measuring of Distances and Quantities, and infinite more did arise.

4. Some things in their first discovery seem purely accidental, and although possibly the operation of Reason and Tryal and Experiment might or may carry on the Invention into farther Improvements and Advances, yet in the very first *primo primum* of the Discovery it may be accidental: The old, whether true or fabulous Discovery of Fire may serve to explain my conception; wherein it is supposed, that one sitting upon a Hill and tumbling down Flint stones, upon the collision thereof he observed sparks of Fire, which nevertheless he after improved by adding combustible materials to it; and doubtless upon such and the like occurrences many Chymical and other accidental Discoveries have been made, besides and beyond and without the intention of the Operator: And I well knew a Person that had not capacity enough to deduce any thing of curiosity *per processum rationalem*, yet by accidental dealing with Water and some Canes did arrive to a most admirable excellence in some Mechanical Works of that nature, though he never had the Wit to give a reason of his performance of them.

5. Some things have been found out by a kind of necessity and exigence of Humane Nature; such as Clothes, Societies, Places of Defence and Habitation, and possibly much of the plainer sort of Tillage and Husbandry; *Venter magister artis, ingenique largitor*: and commonly these were the earliest Inventions, because Nature stood early in need of them. And hence it came to pass, that they who had *Caelum clementius*, that afforded them necessaries without the assistance of considerable Industry, continued longest rude and uncultivated. And therefore if the Husbandry of *Ceres* or *Triptolemus* came late into the World, it was because those Eastern Countries then inhabited abounded with plenty of Fruits, which supplied the defect of Husbandry till the World grew more dispersed and fuller of Inhabitants, and transmigrated into parts of less natural fertility.

6. Some things have been discovered not only by the Ingeny and Industry of Mankind, but even the inferior Animals have subministred unto Man the invention or discovery of many things both Natural and Artificial and Medicinal, unto which they are guided, and in which they are directed by secret and untaught instincts, which would be infinite to prosecute. The Fable or History of *Glaucus* observing Fishes to leap into the Sea, upon tasting an Herb by the shore; the Weasel using Plantane as an Antidote; the wounded Stag using Dittany to draw out the Arrow, (if true) and divers others, give us some Analogical Instances.

And these are ordinarily the Methods of Discoveries. The Things or Objects discovered are principally of two kinds; *viz.* 1. Such things as are already lodged in Nature, as Natural Causes and Effects, and those various *Phænomena* in Nature, whereof some lye more open to our Senses and daily observation; others are more occult and hidden, and though accessible in some measure to our Senses, yet not without great search and scrutiny, or some happy accident; others again are such as we cannot
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attain to any clear sensible discovery of them, either by reason of their remoteness, distance, and unaccessibleness, as the Heavenly Bodies and things closed up in the bowels of the Earth; or by reason of their subtil and curious texture, escaping the clear and immediate access of Sense, as Spiritual Natures, the Soul and its various Faculties and Operations, and the Reasons or Methods of them, wherein for the most part our acquisitions touching them are but Opinion and Conjecture, wherein Men vary according to the variety of their Apprehensions and Phantasies, and wherein (because they want that manuduction of Sense which is our best and surest Guide in the first Instance in matters Natural) Men range into uncertain, inevident, and unstable Notions.

2. Such things as are Artificial, wherein some Discoveries are simply new, others are but accessions and additaments to things that were before mentioned: Some things are of convenience, utility or necessity to Humane Nature or the condition of Mankind; some things are of curiosity: some things are found out casually or accidentally; some things intentionally, and out of those Principles or Notions that seem to be lodged originally in the Mind.

Now upon these Considerations premised, it seems that the late Discovery of many things in Nature, and many Inventions in Art are not a sufficient Evidence of the Origination or late Origination of Mankind, at least taken singly and apart.

1. In things Natural the variety is so great, and the various combinations therein so many, that it seems possible that there should not have been a full discovery of the whole state of things Natural unto the Minds of Men, although there were supposed an eternal duration of Mankind. We may give our selves a *Specimen* hereof, if we look but back upon that one Piece of Nature with which we have reason to be best acquainted, namely, our selves; which by reason of our vicinity to our selves, our daily conversation with our selves and others of the same *Species*, our daily necessities and opportunities of inquiring into our selves, and the narrowness of our own nature in comparison of the vast and various bulk of other things, seems to render us a Subject capable of being very fully discovered. And besides all this, the more inquisitive and judicious part of Mankind have industriously set themselves for many Ages to make the best discovery they could of the nature of Man. *Hippocrates* the Father of Physicians, who lived in the 82^d *Olympiad*, and above 2000 years since busied himself much and profoundly in this Enquiry; and a succession of industrious, observing and learned Physicians and Naturalists have pursued the Chase with all care and vigilancy, and by the help of Anatomical Dissections have searched into those various *Meanders* of the Veins, Arteries, Nerves and Integrals of the Humane Body: Yet for all this, in this sensible and narrow part of Humane Nature, the husk and shell thereof, how much remains after all this whereof we are utterly ignorant? So that notwithstanding all the Discoveries that have been made by the Ancients, and those more curious and plentiful Discoveries by the latter Ages, there still remains so much undiscovered that leaves still room for Admiration and Industry, and gives us a powerful conviction of our Ignorance, that the things we know in this little narrow obvious part of Nature the

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Body

Body of Man is the least part of that we know not touching the same.

But when we yet consider how small a part of the Humane Nature is that which is the Corporeal part; and how little we know with any tolerable certainty touching the more noble Parts, Acts and Operations of the Humane Nature, the Principle of Life, Sense, and Intellection, we have still reason to conclude that this little, narrow, near Subject of our Knowledge is yet very difficult for us actually and fully to comprehend, and furnisheth our search with more Materials than we are possibly able to exhaust with all our Industry, Care, Study, and Observation. When I consider those difficulties that occur touching the Production of that we call the Soul, whence it is, what it is, what power it is that performs the *processus formativus* that digests, disposes, models the *prima stamina natura humana* that acts with most admirable skill, dexterity, infallible order, and in the most incomparable way of Intelligence, and yet wholly destitute of those Organs whereby we exercise the operations of Life, Sense, and Intellection. That incomparable accommodation of all parts and things fittest for use, for time, for convenience: Again, when I consider those various powers of the Sensible Nature, that Regiment that it performs and exerciseth by the Spirits, Nerves, and Muscles; the admirable powers of Sensation, of Phantasie, of Memory, in what Salvatories or Repositories the *Species* of things past are conserved: Again, when I consider the strange powers of Intellection, Ratiocination, Reminiscence, and what that Thing or Nature is that performs all those various operations: And when I consider how little, how uncertain, how contradictory those Sentiments of Mankind have been touching these things, wherein nevertheless they have searched and toyled Age after Age; I must needs conclude, That if we had no other subject of our search and enquiry besides our selves, we should have for ought I know for infinite Ages a continued stock for our discovery; and when we had learned much, yet still even in this narrow Subject there would be still somewhat to be learned; and we should never be able actually to overtake the plenary discovery of what would remain;

Sic rota posterior currit, sed in axe secundo.

And if this one small near piece of Nature still affords new matter for our discovery, where or when should we be ever able to search out all the vast Treasuries of Objective Knowledge that lyes within the compass of the Universe? So that the new Discoveries that have been made in Natural things is not a sufficient evidence of the newness of the existence of Mankind, because of that inexhaustible Magazin of Natural Causes and Effects which possibly will store Mankind with new Discoveries unto an everlasting continuance.

2. And the same that is said for the redundance of matters intelligible and cognoscible in things Natural, may be also applied to things Artificial. There are these things that render Artificial Inventions prodigiously fertile and various: 1. The variety of the materials of things that may be applied to Artificial ends and uses; as we have Iron, Brasses, Wood, Stones, Sounds, Light, Figuration, Tactile qualities; some things of a
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more active, some things of a more passive nature, some things diversified in degrees of heat, cold, dryness, moisture; various Elements, Meteors: and infinite variety of these Materials we have, which may be the material constituents or ingredients into Artificial Structures, Engins, Motions, or Effects. 2. The variety of the Apprehensions and Fancies of several Men in the destination and application of things to several ends and uses, and this arising in them partly by the various texture and frame of their very temper of their Brains, Blood, and Spirits; partly by variety of Education, partly by Necessity, partly by Accidental Emergency: by this means possibly the same Material is variously managed into various Artifices, according to this variety of Phantasy or Imagination. As take the same Wool; for instance, one Men felts it into a Hat, another weaves it into Cloth, another weaves it into Kersey or Serge, another weaves it into Arras; and possibly these variously subdiversified according to the phantasy of the Artificer: For it is most certain that there is not greater variety in the figures and complexions of Mens Faces and Features, and in the contemperations of their natural Humours, than there is in their Phantasies, Apprehensions and Inclinations. And hence it is that, for instance, the texture of *Zeuxes* or *Apelles* inclines him to the invention or improving of Painting, *Archimedes* to Mechanical Motions, *Euclid* to Geometrical Conclusions: and hence it must necessarily come to pass, that according to the variety of Men that either casually or industriously apply themselves to Artificial Discoveries or Inventions; there will ensue variety of Inventions. That Invention that did arise from the *Genius* or temperament of the Phantasy or Imagination of *Apelles*, would probably never in the same individual Invention have been found out before him, though the World of Men had lasted millions of Years before him; because perchance in that long Period no Man had ever the same Syntax of Phantasy or Imagination that he had, and consequently though some Artificial Inventions are as it were of that common congruity to the general Phantasies of Men, or seem to arise upon a common suitability to the use or exigence of Mankind, as digging, planting, ploughing, sowing, making of Apparel and Houses; yet some have that particular respect or cognation to the Phantasy of this or that particular Man, that they would never have been found out till such a Man had had his being in the World; and consequently the Invention was not found sooner, because the Man to whose Phantasy this Invention was accommodate was not born nor lived sooner.

3. The variety of Application and Combination of several Materials of Artificial things in their several Artificial Complements: For it is very plain, that even where things are finite and determinate in their number, yet they arise to a strange and prodigious multitude, if not indefinitude, by their various Positions, Combinations, and Conjunctions: The Letters of the Alphabet, which arise from the several apertures and conjunctions of the Tongue, the Teeth, the Palate, the Lips, the Throat, are but 24 in number, yet various combinations of these Letters are the formal constituents of all the Words and Languages in the World: And yet all the Words and Languages in the World do not amount to the hundredth part of those other articulate Languages that might be made out of the remaining combinations of the Letters of the Alphabet, which are not
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in use in any or all the Languages of the World. The general division of Lines in Geometry is into streight and crooked, but the various combinations and positions of these two sorts of Lines would make more Figures of Superficies than all the Ages of the World could possibly collect or describe.

And from this variety of Materials, variety of Phantasies and Imaginations, and variety of Combinations or Junctures of things, we may reasonably conclude that the multitude of Artificials is inexhaustible; and that although there be many new Inventions discovered daily which were not discovered before, yet that alone is no sufficient Argument of the Novity of Mankind; for this Magazin of Artificials is so fruitful, vast, and indeterminate, that if the World should last millions of Ages there would be a store and supply for immense Ages, *Et semper aliquid ultra*.

It may be possibly objected, That although the variety of Materials are great, and possibly indefinite and indeterminate, and so also of the Fancies of Men, and consequently those various combinations of things that are constituents of new Inventions, yet they are not Infinite: For although the combinations of the 24 Letters of the Alphabet are a prodigious number, yet if instead of 24 Letters there were 24 millions, as those 24 millions are a finite number, so would all the changes and combinations thereof be finite, though perchance not easily computable by Arithmetick, in respect of the huge excess of the number; and consequently, in an infinite Period of Time, though one of these combinations should be exhibited in a million of Years, the whole number of combinations had been infinite Ages since exhausted, and no combination left to make up the material or formal constituent of a new Invention.

I answer; It is true, the combinations of things finite existing must needs be finite as well as the things themselves. But, as I have before supposed, the Invention of Arts doth not only depend upon the existence of the Materials of things Artificial, no nor singly upon the various combinations of those Materials; but upon the Phantasie, Design and Destination of Man, which is various, according to those various Temperaments that have ingredience and influence into him: yea and possibly also upon certain junctures and concourses of things that might never before befall any other. And therefore, as if upon a supposed Eternal Succession of Mankind we should find but one individual *Socrates* or *Plato*, so it is not impossible to suppose that *Socrates* or *Plato* should consist of such a Temperament and Constitution, such a Phantasie and Imagination as never any man before had exactly the like; and consequently he might be the discoverer of some such Invention as never before was discovered. Or if we should be so hardy as to suppose a Man pre-existing in all things exactly like to *Socrates*, both in his Temperament, Body and Mind, yet possibly those accidental Occurrences which excited the Imagination of *Socrates* to the discovery and composing of such an Invention might not fall in with that Man that is supposed of a perfect parity with *Socrates*.

For although perchance existing Individuals may not be actually Infinite, yet certain it is that the potential gradation of things may be potentially Infinite, and so may the junctures of Occurrences be potentially Infinite; whereby it may come to pass, that though an Eternal Succession
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of Men were admitted, yet *in ista hora* a Man might be produced that had never *parem omnibus gradibus & numeris*: And such junctures of Occurrences might happen *in ista hora* that had never an exact parity of all Circumstances, and the same exact weight and number of Occurrences in any antecedent portion of Eternity.

And hence it may very easily come to pass; that as any one Invention had not its existence in a portion of a thousand, two, ten, twenty thousand years before; so, if the Ages of Mankind were infinite, it might never have pre-existence before, though the whole Race of Mankind had been industriously addicted *ad ultimum posse* to have discovered or improved Artificial Inventions.

3. The third Allay to the concludence of this Argument is this: That Mankind have been, and in many places are very remiss and unactive in improving their knowledge and discovery of things Natural and Artificial; and that which befalls one Man, or Age, or Place in this kind, may befall another: This may happen by laziness and sloth, by an evil custom, or by overflowing barbarousness and want of improvement by Education: And upon this account we find a great want of Arts and Inventions in the Western World, in *Africa*, and even nearer hand among the *Irish*: And if now by the accession of Planters of better Education, or by the advanced Industry of some Inhabitant of those barbarous Countries there should be derived among them the Inventions of profitable or curious Arts, we could not with any sufficient reason conclude that the World lately began in those Countries, because the Original of those Arts and Inventions was but lately begun among them. If therefore those People by reason of their Barbarous course of life might be strangers unto Arts and Inventions for the space of five hundred or a thousand Years, why not for a much longer time? why not eternally? Since the very same supineness and negligence might as well possess those Parts and Inhabitants for many Ages, as well as few, and for interminate Ages, as well as certain: and if at this day they should discover and practise new Arts and Inventions, it were no greater Argument against the Eternity of their Succession, than against their Continuance for those many thousand Years, which probably they have had in that unknown Western World.

4. The fourth Allay of this Observation seems to be this: That as in Kingdoms and Empires, so in Discoveries of Arts there seem to be very great vicissitudes and circulations, which strangely vary the Faces of Things and Countries; and this principally done, 1. By Wars and Victories: 2. By Floods, Inundations, or Epidemical Diseases and Plagues.

The Instances of the former are various. The *Romans* were a People civilized and improved into great Knowledge in Arts and Sciences, and in Civil and Military Government; and where they prevailed in Conquests and Victories, they did together with their Victories transmit Arts, Sciences, and excellent Methods of Government among even Barbarous Nations, which quite altered oftentimes the former Face of those conquered Countries, and by that means those Arts which were not known before in those Places, became in use and request in those Countries wherein before they were strangers: not as if they then began, for they had

had their Practice and Use long before among the *Romans*, though their transmission and derivation into those Countries that were conquered seemed new.

Again, some Countries were *benè morati*, well disciplined in Learning, Arts, and Knowledge, but possibly by the Irruption of numerous Armies of Barbarous People, those Countries were quickly over-grown with Barbarism and desuetude from their former Civility and Knowledge, and degenerated into the Ignorance and Barbarism of their Conquerors; so that in a reasonable Period of time much of their ancient Knowledge and Arts was forgotten, as if they never had it. This was the condition of *Greece* the Learned Part of the World after their subjugation by the *Turks*, and this possibly may be the condition of *China* in a few years after the great Irruption and Devastation by the *Tartars*; wherein possibly if an Age or two hence the state of things should be judged according to the present appearance, it would be looked upon as if it had never been the habitation of those Curious Arts which some time dwelt there: and possibly the setting on foot some of those very Arts that were once well known in those parts, would be looked upon as the *Natales* of those Arts, or the first Inchoation of them, Wars and Desolations having obliterated the Monuments of their former practices, which yet nevertheless would be in truth but the reviving of those Arts which were long before practised, though intermitted and interrupted by the vicissitudes of Wars.

And upon the same account are those alterations that have hapned in the condition and state of People by other accidents, as Inundations, Epidemical Diseases, Corruption of the Air in some Parts and Continents, either by some eruption of pernicious Vapours, or other Inclemency of the Heavens. *Plato* in his third Book *de Legibus*, in the beginning, though he suppose an interminate Beginning of Mankind, and that there were successively Cities, Laws, and Arts, yet he supposeth that upon these and the like Occurrences, those that escaped these common Calamities betook themselves to the Mountains, kept Sheep, and preserved the *Species* of Mankind; but most of those Arts and Sciences which formerly were common, became disused and forgotten among them: But after Mankind multiplying, they descended into the Vallies, and by degrees, mutual conversation, the necessity of their condition, and the due consideration of things did gradually revive those Arts which Men had formerly lost by long intermission. For such is the *indoles* of the Humane Nature, where it is not strangely over-grown with Barbarousness, that it will by a kind of Natural Sagacity discover things, especially necessary for the use of Humane Life and Society; as Husbandry, Laws, Government, Architecture, Clothing, and the like; as Bees or Ants provide for their common habitation and supply.

Upon all which it may seem that we are over-hasty when we conclude, That because Arts or Sciences do perchance discover themselves first to our view in such Places or Ages, that therefore this was their first and primitive production, or that they were never before. For it may very reasonably be, that those or the like Arts might have been either in other places, and by a kind of migration or circulation be transmitted to those new places either by Armies or Colonies deduced hither; or that even
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among the same People or Nation these Arts were sometimes flourishing, though possibly having received some intermission by great Accidents and Occurrences, they again do *repullulare* and revive upon the opportunity of Peace, Trade, Commerce and Popular Increase. Nay many times it comes to pass, as is before observed, That when People are multiplied, so that their places grow strait and narrow, and their supplies not proportionable to their number, necessity and exigence, it gives an edge to their Industry and Invention, and produceth new Discoveries of things that were either not known before, or forgotten: And even this one thing hath advanced the *Dutch* to that eminence of Manufacture, Industry and Arts, that they exceed the rest of the World therein.

We may have an Instance of this Circulation of Arts even in this Kingdom of *England* in that which is our great Manufacture, namely, Woollen Cloth: It appears very plainly by those ancient Gilds that were settled in *England* for this Manufacture, as at *Lincoln*, *Tork*, *Oxford* and divers other Cities, that in the time of *H. 2.* and *R. 1.* this Kingdom greatly flourished in that Art: but by the troublefom Wars in the time of King *John*, *H. 3.* and also in the times of *E. 1.* and *E. 2.* this Manufacture was wholly lost, and all our Trade ran out in Wools, Wool-fells, and Leather carried out *in specie*; and the Manufacture, during those Warly times, held its course in *France*, the *Netherlands*, and the *Hans Towns*; but by the Wisdom and peaceable times of *E. 3.* and his fair treating of forein Artifts, which he invited and entertained in this Kingdom, he regained that Art hither again, which for near one hundred Years had been for the most part intermitted, which hath hitherto continued to the great Wealth and Benefit of this Kingdom.

So that we are not to conclude every new appearance of any Art or Science is the first production of it, but as they say of the River *Tigris* and some others, they sink into the ground, and keep a subterranean course, it may be 40 or 50 miles, and then break out above ground again, which is not so much a new River, as the continuation and new appearance of the old: So many times it falls out with Arts and Sciences, though they have their non-appearances for some Ages, and then seem first to discover themselves where before they were not known, it is not so much the first production of the Art as a transition, or at least a restitution of what possibly was either before in another, or in the same Country or People: And thus some tell us that Guns and Printing, though but lately discovered in *Europe*, yet were of far ancier use in *China*.

So that notwithstanding this Consideration of the late Invention of Arts, or Discoveries of things Natural or Artificial, Mankind might have had an infinite succession, or at least such a continuance as surmounts all those Accounts which the most prodigal Computations have given: and that Saying of the Wise Man may be verified, *Ecclesiast. 1. 9. The thing that hath been is that which shall be, and that which hath been done is that which shall be done, and there is no new thing under the Sun: Is there any thing whereof it may be said, See, this is new? It hath been already of old time before.*

I shall here add a farther Consideration, because it hath a cognation with the Subject of this Chapter.

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There seems to be very probable Conjectures made touching the Origination of Mankind, because there seems to be one Radical Language from which all others have their derivation, though some carry in them more, some less Memorials of their Original, as they were more or less remote in their Inception.

The Languages of the World may be aptly enough divided into the *Primo prima*, the *Primo secunda*, and the *Secundo secunda*.

The Language which I call *Primo prima* must needs be but one, if the Original of Mankind were but two common Parents of either Sex, as the Holy Scriptures teach us; and this one Language they must needs learn either from a conformation of Voices by the Angels, such might that vocal Language be between Almighty God by the ministration of Angels, and *Adam*, whereof we read in the first and second Chapters of *Genesis*; or it must be an instituted Language, chosen by *Adam* in *Paradise*, by which he gave the several Beasts their names, and maintained discourse with GOD, and the Woman with the Serpent: For although it is as natural to Mankind to express their Desires, Passions, and Conceptions vocally, as it is for Brutes to use their natural vocal Signs, though of a more simple and imperfect kind; yet the forming of Languages into this or that particular fashion or mode, whereby Conceptions may be rendred intelligible to others, is a business of Institution, Discipline, Intention and Consent. But what this first Language of our first Parents was, is difficult for us to determin: some think it was the *Hebrew*, and from thence they derive other Languages; others think that the *Chineses* Language was the Original, because it is the most simple, consisting most of monosyllables, the most natural, fitting the apertures and flexures of the Lips and Tongue with the greatest ease, and yet having the greatest multiplicity and variety of Words; others again contend for the *Scythian* Language as the Primitive: all founded upon conjectural Reasons.

But when we consider how soon Languages are changed, and what a tract of time there was between the Creation and the Flood, and from thence to *Moses*, it may be difficult to suppose that that Language continued so long in its purity and integrity; possibly if in any Line it continued in its integrity, it might be in the Line and Family of *Noah*, and so down to the Confusion of Languages at the Tower of *Babel*.

But it is hard to determin what that Primitive Language was: the *Hebrew* or *Samaritan* bids fairest for it, 1. In respect of its Antiquity; 2. In respect of many Languages, especially of the East, that seem to be derived from it, as the *Caldee*, *Egyptian*, *Phenician*, *Syriack*, *Arabick*, which have a great cognation with it, and derivation, as it seems, from it.

And though possibly in those Elder times, as in the time of *Abraham*, these several Languages might be but as so many several Dialects of the same Language, whereby it came to pass that *Abraham*, though brought up in *Caldea* or *Assyria*, held conference with the King of *Gerar* and the Children of *Heth*, that were *Canaanites*, and as some think, used the *Hebrew* Language; his Servant also readily conferred with *Laban* the *Syrian*: *Isaac* also had conference with the *Philistims* and *Egyptians*, yet it is apparent that in process of time they grew into distinct Languages, unintelligible each to other: The Sons of *Jacob* understood not the *Egyptian* Language when they came down for Corn, *Gen.* 42. 23. neither did

did they afterward understand ordinarily the *Syrian* Language, 2 *Kings* 19. 26. nor the *Caldean* Language, *Jer.* 5. 15.

But although it be commonly thought the *Hebrew* Language was the common Language of the *Canaanites*, yet it seems hard that the Holy and supposed Primitive Language should be preserved only in the Posterity of accursed *Canaan*, and from them derived to the Posterity of *Abraham* the Holy Seed.

As touching the Language of the *Seres* or *Chineses*, those that suppose it to be the Primitive Language, do suppose that *Noah's* Ark first rested upon the bordering Mountains of *China*, and that Country first peopled by the descendents of *Noah*; that they were not at the building of *Babel*. But this seems to be but a novel Conceit.

2. The Languages that were *Secundo prima*, were those that hapned upon the Confusion of Tongues, which the *Jews* suppose to be 70 or 72, from that place *Psal.* 78. verl. 55. *He hath divided the Nations according to the number of the Princes of Israel*, or the *Sanhedrim*; but whether they were so many, or more, or less, is not possible to determin.

Some suppose those Languages which are ordinarily called *Lingua matrices*, were some of those Languages that arose at the Confusion of Tongues, and are called *Matrices*, because divers other, especially of the *European*, seem to be much derived from them, namely, the *Greek*, *Latin*, *Teutonic*, *Sclavonick*, *Scythian*, *Hungarian*, *Finnick*, *Cantabrian*, *Irish*, *British*, *Arabick*, *Frisick*, *Illyrian*, and *Farygium*.

But though these are taken to be *Lingua matrices*, yet much of their Languages seem to be borrowed from *Hebrew* and *Phenician* Language; and though they suppose those *Lingua matrices* might arise at the Confusion of Tongues, yet they were not totally estranged from that common Language which universally obtained before that Confusion, which some think as before, was the *Hebrew*; some relicks of which Primitive Language were notwithstanding that Confusion retained as Indications and Monuments thereof, as *Bochart* in his *Phaleg*, and out of him *Mr. Gale* in his Book called *The Court of the Gentiles*, endeavours largely to prove.

3. The third sort of Languages, which I call *Secundo secunde*, are those that have either been derived from those that were *Primo secunde*, or that have been compounded out of other Languages, or taken up *de novo* of later times, or by all of those ways have obtained in several parts of the World, as the *French*, *Italian*, *Spanish*, *Danish*, *English*, and divers others.

Now if it can be well deduced that there was some ancient Primitive Language that by reasonable Evidence can appear to be the common Root of all other Languages, it is reasonable to conclude, That surely there was some one common Head that was the Beginning of Mankind; for without this Supposition it is hardly possible that there should be a common Language at any time in the World, from which as from a common Root all the Languages of the World should in process of time be derived.

But this Evidence also taken singly, lyes open to some Objections that weaken it upon these Considerations.

1. We have not clear Evidence enough of any single Primitive Language, nor what that Primitive Language was if such there hath been:

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there might be in process of time a thousand successive Languages, and many that went before have been lost, and succeeded by others.

2. Those similitudes of Words of one Language which are found in another, give us no sufficient Demonstrations which of them was Primitive; the resemblances of words signifying the same thing in the *Hebrew* and *Greek* Language prove no more that the *Hebrew* was before the *Greek*, and lent Words to them, than that the *Greek* was before the *Hebrew*, and lent the similitude of Words to them.

3. If we consider almost any Language not before-hand or by some after means mancipated to Rules, we shall scarce find any that contain themselves in the same Articulation, Accent or Pronunciation for the space of three or four hundred Years, but are infinitely varied in process of time from what they formerly were. The *English* Language that was common and usual three or four hundred Years since, is scarce now intelligible by us; yea and the *Greek* Tongue, though a regular Language, and reduced to a Grammatical Canon, yet a good Grammatical *Grecian* can hardly understand a Native *Grecian*, nor a Native *Grecian* the other at this day: yea we are told by *Quintilian*, as I remember, that in *Rome* it self in process of time the *Latin* Language was so altered, that the Priests could not readily understand the Hymns composed for their Idol-service by the ancient Priests of *Rome*.

4. As succession of Ages, so variety of places in the same Country and Nation gives such variety of Dialects in the same Language, that one side of a Kingdom scarce understands the other: witness the four Dialects of the *Greek* Language, and the several Pronunciations of the *French* in several parts of *France*, and the various Dialects of the *English* in the North and West that render their Expressions many times unintelligible to the other, and both scarce intelligible to the Midland: various Provinces of the same Kingdom, and that at first used the same Language, in process of time use various manners of Pronunciation, which in time also alter the structure of the Words as they are spoken or written, which in farther process of time alters the Language into several Dialects, as it did in *Greece* and other places.

5. Every Nation hath a certain humour or disposition appropriate to it, which by a kind of Natural necessity frames the very Air of Words, Speech and Accents accommodate and similar to that Natural humour or inclination;

————— *Gravis dedit ore rotundo*
Musa loqui —————

In the very frame of the Speech of the *Spaniard*, *Italian*, *French*, *Dutch*, *welsh*, *English* we may find a kind of Image of their Complexions and Tempers, suiting and framing their Speech, Accents, Tone, Pronunciation: Vowels conform thereunto, no less than in their Gate and Gesture, and this very Account would in a little time diversifie one, and the same Language in the Mouths of several Nations, so that in a little space they would not be the same.

6. Commerce and Trade with foreign Nations gives great alterations in Languages, each Country borrowing some Words, Accents, or Expressions from the other, whereby in a little time it is quite altered, and becomes

becomes a mixt confused Language, made up of the Ingredients of several Languages.

7. As in Clothes, so in Words, Phrases, and Expressions there commonly grow new Fashions, whereby it comes to pass that the same Words and Phrases that were not used, or scarce understood in former Ages, become in Fashion, Reputation and Vogue in another Age; and this obtains sometimes from the Courts of Princes, wherein a Word a little in request soon grows in fashion with the Gentry, and from them at the third hand passeth over to the Tradesman or Countryman.

8. Many times the *Literati* and *Scholares* coyn new Words, and sometimes in common Speech or Writing in their Native Language, give Terminations and Idiotisms suitable to their Native Language, unto Words newly invented or translated out of other Languages; which is sometimes done out of Affectation, sometimes out of Necessity, by reason of the want of sufficient significancy in their own Language; and when such Phrases or Words come abroad in printed Books, in Sermons or Orations, they become more general, and incorporate into the Native Language.

9. Many Languages of Countries are greatly altered and mingled, and sometimes totally eradicated and lost by Invasions and Victories, or by transmission of Colonies by Foreign Princes of a different Language. Thus by the chasing the *Britons* out of *England* into *wales*, their Language was wholly exterminated from hence with them, and by the successive Incurfions and Invasions of the *Saxons*, *Danes* and *Normans*, the *English* Language grew a kind of mixture of them all, which yet in process of time hath been so much varied, that the *English* that was written in the time of *H. 1.* is not now intelligible.

It is true that those Languages that are not now Native, though sometimes they were, but are preserved in Writing or Rules or Canons, have long kept their simplicity, as the *Hebrew*, *Greek* and *Latin*, which have been indeed preserved from being lost by vulgar use, but when a Language once becomes of vulgar use, it soon loseth its integrity; thus the *Latin* degenerated into the *Italian*, and the very *Hebrew* and *Greek* more barbarous by much where they are popularly used, than in the ancient Writings, wherein they have been preserved and kept to their ancient integrity.

Considering therefore the great instability of Languages, the great variations and changes to which they are subject, the great alterations that they have had, the great difficulty of finding any Language which (upon grounds barely of Reason, without Divine Revelation) we can safely call Original, and the great difficulty of deducing other Languages entirely from it: It is hard for us singly to lay any weight upon this Instance, to prove the Origination of Man upon a meer Moral Account or Topical Ratiocination thereof:

C A P. V.

The Fourth Instance of Fact seeming to evince the Novity of Mankind, namely, the Inceptions of the Religions and Deities of the Heathens, and the deficiency of this Instance.

Religion seems to be as connatural to Humane Nature as Reason, and possibly a more distinguishing property of Humane Nature than it: For almost in all sensible Creatures, especially those of the more perfect kind, a certain Image or weak Adumbration of something like Reason appears, yet we find in no Creatures below Mankind any thing like Religion, or Veneration of a Deity: And those faint Conjectures touching something analogical to Religion observed in Elephants, are too weak to give any reasonable admission thereof in them.

Religion therefore seems as ancient as Humanity it self, at least of some kind of dress or fashion or other: therefore if we can arrive at the Inception of Religion, Veneration of a Deity, and those Rites, Adorations, and Services that result from thence, we have reason to conjecture that the Inception of Mankind was not long before.

And because the Inception of Mankind is not doubted by *Jews* or *Christians*, who acknowledge the Truth and Divine Authority of the Scriptures, that reveal and discover the Origination both of Mankind and the World, but the doubt only resteth among those of the *Gentile World*; it hath been thought a reasonable Argument to convince the *Heathen World* of the Origination of Mankind, by discovering the Origination not only of the Religious Worship of the *Heathens*, but even of those very Deities which they celebrated and venerated, and paid that Religious Worship unto.

And this Discovery of the Origination of their *Heathenish Deities* hath been endeavoured by two Methods: First, by following the ancient Histories of the *Phenicians*, *Egyptians*, *Grecians*, and *Romans*; by which means they have traced up most if not all their *Heathenish Deities* to their Original, and their first Inauguration into Deities; whereas they were in their original for the most part but Men of great Note and Merit or Power in the *Ancient World*, or such, who outgoing the ordinary rate of Mankind by some signal Excellence, Learning or Industry, were by the admiring inferior sort of Men translated into the Opinion and Veneration of Gods: and then there wanted not Poets and Priests to derive from them a Race and Progeny of Gods, which swelled into great Numbers, Pedigrees, and Genealogies of Gods and Heroes, *Theogonia*, which filled the superiour World as Men filled the inferiour World by successive Generations: And those Authors that have given us an account of the *Apotheoses*, the Inauguration of the *Heathenish Deities* and their successions, are many; especially, *Diodorus Siculus* in his first six Books; *Eusebius* in his first and second Book *De Preparatione Evangelii*, out of the *Ancient Monuments* of the *Phenicians*, *Egyptians* and *Grecians*; and *Clemens Alexandrinus* in lib. 1. *Stromat.* who gives us an account of the *Apotheoses* of *Bacchus*, *Hercules*, *Æsculapius*, *Isis*, *Ceres*, *Serapis*, *Apis* and others, many of them, if not all,

all, having their being and translation into Deities after the time of *Moses*; and from the various Denominations of those Heathenish Deities, some had one Name among the *Egyptians*, another among the *Phenicians*, another among the *Syrians*, another among the *Grecians*; though possibly the Persons themselves were for the most part the same.

Secondly, By carrying up the Original of most of the Ancient Deities of the Heathens, and resolving them into *Noah*, and his Sons and Descendents, deducing by very probable Arguments that *Noah* was *Saturn*, *Chronos*, &c. that *Japhet* was *Neptune*, *Ham* *Jupiter*, *Shem* *Pluto*, *Canaan* *Mercury*, *Nimrod* *Bacchus*, *Magog* *Prometheus*: vid. *Bochart. in Phaleg*, l. 1. *Vossius de Idololatria origine & progressu*, l. 1. and others that have followed those Learned and Ingenious Authors.

But this Inference of the Recentness of Mankind from the Recentness of these *Apotheoses* and Origination of Gentile Deities, seems also too weak to bear up this Supposition of the *Novitas humani generis*.

1. Because although possibly some of their Heathenish Deities might have been of a late Edition, yet there might be many more that might be ancients, who either were antiquated and forgotten, or they were translated to other Names and Successors; it faring with Idol Gods as it doth with Words or Languages,

————— *Cecidere cadentque,*
Quæ jam sunt in honore vocabula. ———

The lust of Mens Fancies in Propagation of Deities was endless and unsatiable. We are told out of *Varro* that there were no less than thirty thousand Heathenish Gods and Deities of all sorts, which were known in his time; and how many more there might be whose Names and Worship were long before that time antiquated, we cannot easily conjecture: only in all probability they were far more than those that survived. And therefore possibly there might be a Race and Succession of *Apotheoses* long antecedent to those whose Originals we have given us in Ancient Histories. We see how easily the *Roman* Calendar swells with new Consecrations of Saints, and to what a multitude they have grown within less than the compass of one thousand Years; and possibly had the World continued many thousand years before it is supposed to have began, there might have been an interminate succession of imaginary Deities, though many or most of their Names are now unknown, or the times of their Consecrations forgotten.

2. But yet farther, if we should suppose that this course of Idolatry began even shortly after the time of *Noah* and his three Sons, yet it is granted of all hands that the World had stood above 1600 Years before the invention of this kind of Idolatry: So that *ex confesso* this was not the first Religion in the World, neither did this Religion tread upon the Heels of the Origination of Mankind if Mankind was, and was 1600 Years before those Deities were found out; and so this Religion cannot pretend to be coeval with Mankind, nor give us any sufficient Indication of the Recentness of Mankind.

3. But yet farther, it is very apparent that this Veneration of Men Consecrated into Deities was not the ancientest Idolatry, much less the
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ancientest Religion of the World: The Worshipping of the Host of Heaven, the *Sun*, *Moon*, and Stars was an Idolatry that way far more ancient than this of the Heathen Gods made of Men: and this is an Evidence of the antecedency of that Idolatry of the Stars and Heavenly Bodies, in as much as when these new consecrated Deities were made, they did as it were incorporate and affix them to that more ancient Idolatry, transferring the Names of most of their Gods to the Heavenly Bodies or Asterisms; as *Saturn* to the Star of *Saturn*, *Mars*, *Venus*, *Mercury*, *Jupiter* to the several Planetary Bodies; and to the *Sun* and *Moon* a prodigious number of Deities, as to the *Sun*, *Phæbus*, *Apollo*, *Osiris*, *Horus*, and many more; to the *Moon*, *Diana*, *Hecate*, *Venus*, *Astarte*, and many others: So that although we should allow the first Origination of those Heathenish Deities to have been when Historians give us an account, and not before; yet the Idolatry performed to the Heavenly or Elementary Bodies, the *Sun*, *Moon*, Stars, Fire, *Ether*, &c. might have had a long practice among Men before the Invention of these later Deities.

4. But yet farther; in as much as Truth is certainly more ancient than Errour, we have reason to think that even before the ancientest Form of Idolatrous Worship in the World, even that of the Heavenly and Elementary Bodies, there was a True Worship of the True GOD, which might continue many Ages before any sort of Idolatry prevailed in the World. So that it would be too rash to conclude, That because many of the Heathenish Deities had their known Original, that therefore no other Religion anteceded it, or that that Religion soon followed the Origination of Mankind.

5. Besides all this there seems in the World, or at least it is very possible to suppose certain vicissitudes or relations not only in Arts and Sciences, as is before observed, but even in the Religions professed, which may obtain successively both in Places and Ages according to several vicissitudes: We see that in the Country of *Palestine* shortly after the Flood Idolatry obtained among the *Canaanites* and the descendents of *Ham*; after that, the Knowledge and Worship of the True GOD among the *Israelites* for many Ages; and after that, a degeneration of the greatest part thereof to Idolatry again in the Country of the Ten Tribes, and in a great part among the other Two Tribes: after that a Reformation and Restitution of the true Worship of God, in the return from the Captivity until Christ came; then the most sound and perfect Religion, namely Christianity, obtained for some time; then the return of Paganism, under persecuting *Roman* Emperours; then the prevalence again of the Christian Religion, under *Constantine* and some that succeeded him; then Popish Superstition; after that Turcism and Mahumetanism, especially in the parts of *Greece*, *Palestine*, *Egypt* and other parts of *Asia* and *Africa*. Thus various Professions of Religion have had various Vicissitudes, Revolutions and successive Alterations in Places and Ages.

Albertus Magnus, as I remember, with somewhat too much curiosity, and somewhat transported with too much fancifulness towards the Influences of the Heavenly Motions and Astrological Calculations, supposeth that Religion hath had its successive Alterations and Seasons according to certain Periodical Revolutions of the Planets: to the first Ages of the World he assigns the Presidency of *Saturn* in matters of Religion,

Religion, and so downward, according to several successive assigned Periods. These are vain Conjectures, but they serve to explain what I mean, namely, That there may be successive Alterations and Changes in the professed Religion of the World in successive Ages; and successively in the same and other places of the World; whereby it will be hard to determin the *Epocha* of the Commencement of Mankind by any one Form or Shape of Religion professed in the World; for there may be some Religion antecedent to that which to us in this Age appears to have been the ancientest; but still with this probable Conclusion, That since Truth is more ancient than Errour, it seems, that if there were any Religion that was Primitive in the World, it was the true Religion and true Worship of the true God, and not Idolatry, or worshipping of Men or Idols, or the Works of Nature: and consequently, that although we had no Monuments extant of any Religion ancients than Idolatry, yet we had no reason to conclude that that Idolatrous Religion was the most ancient, or coeval to the Origination of Mankind: but rather, that Mankind had an Existence in the World much antecedent to such Idolatrous Worship, wherein the true God was for many Ages and Generations truly worshipped; and that partly by the subtilty of the Enemy of Mankind, partly by the apostacy and corruption of Humane Nature, and partly by the gradual decay of that true and ancient Tradition of the true Worship of the true God, Idolatry and Superstition prevailed and obtained in the World.

So that although it be a most certain Truth that Mankind had an Origination, and was not without Beginning, yet the Evidence of the Origination of their Idolatry and Idolatrous Deities, is no sufficient Proof or Evidence of the Origination of Mankind.

C A P. VI.

A Fifth Consideration concerning the Decays especially of the Humane Nature, and whether there be any such Decays; and what may be collected concerning the Origination of Man upon that Supposition.

THIS Argument hath been excellently handled by Dr. *Hakewell*, I shall therefore be the shorter in it, yet somewhat I shall say concerning it.

Some of those that have been inquisitive into the Nature of Man have observed two things, which if they were true, would certainly give us an irrefragable Argument against the Eternal Succession of Mankind, viz. 1. That the Ages of Men grow gradually shorter and shorter: 2. That the Quantity of Humane Bodies was ordinarily heretofore much larger than they are now, and by a kind of gradual decay of that Natural Vigour and Strength they decline to a smaller Stature. Thus *Plutarch inter placita Philosophorum* tells us out of *Empedocles*, *Nostræ ætatis homines præcis comparatos infantium instar esse*; and yet *Empedocles* lived
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upon the point of 2000 Years since, and *Plutarch* near 1500 Years since: and *Pliny* in the 7th Book of his Natural History, *cap.* 16. tells us the same, *In plenum autem, cuncto mortalium generi minorem indies fieri propemodum observatur, rarosque patribus proceriores, consumente ubertate seminum exustione, in cuius vices nunc vergat ævum; and some Instances are given there and by the Additional Notes thereupon, of the great Sceletons of Mens Bodies found in several Ages, and that, Jam ante annos mille vates ille Homerus non cessavit minora corpora mortalium quam prisca conqueri.*

And indeed if this natural Decrease of the Ages of Mens Lives and their Bodily Statures had held such a proportion, it would not only avoid the possibility of an Eternal Succession of Mankind, but would also give us a very late *Epocha* of their first Origination: For a very ancient Original, accompanied with such a natural Decrease of Age and Stature by reason of that insensible but unintermitted decay of the strength and stature of Nature, would have long since reduced Mankind to be but *Ephemerae* in duration, and little other than Insects in extent, or rather wholly determined, and put a Period to the whole *Species* infinite Ages past.

But it seems that these are mistaken complaints both of *Empedocles* and *Homer*; for surely in so great a Period as 2000 or 1500 Years elapsed since the death of those Men the experiment of that Decrease would have been much more obvious and observable than we find it at this day. And although the nature of Mankind and of other Creatures subject to corruption, if left to it self without the continued *Subsidium* and Influence of the Divine Providence, would soon have fallen into dissolution *per saltum*, and without the incessant and corroding invasions of so long a time; yet that same Power that first gave Being to things, hath supported their successive Generations in the same state and natural vigour that it ever had, abating those accidental occurrences that Sin, Excess, and other occurrences have brought into things.

First therefore as touching the Decays of the Age of Man's Life, we do indeed learn from the Sacred Scripture (for no Humane History reacheth so high) That the Lives of the Ancients were very long, especially before and for some time after the Flood; and this the Divine Wisdom, Providence and Goodness ordered for most excellent Ends, namely, the Peopling of the New World, and that without any other means than his own Will, or at least by means unknown to us: in *Arphaxad* the Son of *Shem* the great Age of the Ancients was cut to halves, namely to 440 Years; and in his Grand-child *Peleg* it was again cut to halves, for he lived but 242 Years; and it is also true that afterwards gradually to the days of *Moses* the Lives of Men became shorter and shorter, till they fixed in that common Period of the Life of Man of 70 or 80 Years: and although it be true that the Histories of former times give us some account of longer Lives of Men, as the Lives of *Moses*, *Aaron*, *Phinehas* and some others, and those mentioned by *Pliny*, *lib.* 7. *cap.* 48. and some in our own Experience; yet *Moses* himself states the ordinary Standard of the Life of Man to be 70, or at most 80 Years. *Psal.* 90. 10. *2 Sam.* 19. 32, 35. And this we shall find true upon the consideration of the Chronological Account of the Years of the ancient Patriarch and Kings that succeeded *Moses*; as likewise of the time that the *Israelites* lived in the Wilderness, all which that were twenty Years old and up
wards

wards at the coming into the Wilderness when the Spies were sent into *Canaan*, which was shortly after their coming thither; all these I say, except *Joshua* and *Caleb*, dyed within the 40 Years Peregrination in the Wilderness: and at this stay the ordinary Age of Men hath been for these 4000 Years, abating those casualties either of Diseases or other Accidents that have shortened the ordinary complete Ages of Mens Life.

2. As touching the Stature of Men, it must be agreed that in former Ages there have been Giants and Men of extraordinary Stature: some Instances we have in the same *Pliny* and other Heathen Authors, and many more in the History of the Old Testament: But these were out of the ordinary and regular course of Nature.

But it seems that ordinarily in all Ages the Statures of Men have little differed from what they now are, though according to the difference of Climates and situations there hath been ordinarily and regularly a difference in the Stature of Men; many times Marsh-Countries, and those that are of a temperate heat, producing Men of a larger size than Mountainous or those Parts that are nearer the Sun, as some parts of *Spain* and *Galicia*.

And that the ordinary Stature of Mens Bodies is much the same now as anciently in the same Places or Regions appears by undeniable Experience: 1. The Bodies of the *Egyptians* that have been exsiccated into Mummy, and lain some thousands of Years, are found to have the same Stature or very little differing from what they now have; neither could they shrink into a shorter dimension by the length of time, considering that the Bones of all parts are joyned in their extremities, and could not become shorter without putrefaction, which occurs not in those exsiccated Bodies.

2. As the first practical Rudiments of Arithmetick were taken from the Parts of the Humane Body in the *Numeri primarii* or *Digitales*, so in Geometry it is evident that the first notation of Measures was taken from the Parts of the Body of Man, and very ancient both among the *Hebrews*, *Greeks* and *Romans*, and these hold still the same proportion as they did anciently.

These Measures according to the *Jewish*, *Arabian* and *Egyptian* Account are as followeth.

6 Barley-corns make 1 *Digit*.

An *Inch* consisted of 8 Barley-corns, or which is all one, one *Digit* and $\frac{1}{3}$ of a *Digit*.

The *Palm* consisted of 3 *Inches*, or 4 *Digits*, or 24 Barley-corns, mentioned *Exod.* 25. 25.

Spithama, a *Span* consisted of 9 *Inches*, or 12 *Digits*; the half of a *Cubit*, namely, the utmost extent between the extremity of the Thumb and the little Finger extended to their greatest dimension. This was the Measure of *Aarons* Breast-plate. *Exod.* 28. 16.

A *Foot* consisted of 4 *Palms*, or 12 *Inches*, or 16 *Digits*, or 96 Barley-corns.

A *Cubit*, the interval between the Elbow and the extremity of the longest Finger; this was the ordinary *Cubit*, it consisted of 6 *Palms*, which allowing 3 *Inches* to a *Palm* is 18 *Inches*, or a *Foot* and a half; *vid. Kircher in Oedipo*, Tom. 2. Class. 8. where writing of the *Egyptian* *Cubit*,
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Step, the Fathom of the same extent and dimension now as anciently, and the ordinary estimate of a tall Man 6 Foot now as then: Witness our Old Statute called *Compositio Ulnarum & Perticarum*; *Tria grana hordei sicca & rotunda (viz. in length) faciunt pollicem, duodecim pollices faciunt pedem, tres pedes faciunt ulnam, quinque ulna & dimidium faciunt perticam, quadraginta pertica in longitudine & quatuor in latitudine faciunt acram.* Whereby we have very plain reason to conclude that *Empedocles* and *Pliny* were mistaken touching the gradual diminution of Humane Stature, since those Measures that took their denomination and extent from the Parts of Men held anciently that extent and length that the very same Parts in Men hold in these times.

And truly if we look upon the progressive Growth and Periods in Humane Nature, as also in all other perfect Animals, they hold regularly the same state and order as they held in the most remote Ages whereof we have any Memorial in Ancient Writings or Histories. The same time for the Formative process of the Humane *Embryo* now as is recorded to have been usual in the times of *Aristotle* and *Hippocrates*, viz. ordinarily in the beginning of the tenth Month. *Aristot. Hist. Animal, cap. 3, & 4. Hippocrat. de Carnibus, in fine.*

The proportion of Stature the same now as anciently; they breed Teeth at 7 Months, *Aristot. Hist. Animalium, l. 2. cap. 10.* shedding and new breeding of Teeth at 7 Years, *Censorinus de Die Natali, cap. 14.* and again breeding of the *novissimi maxillares* or *genuini dentes* at 20. *Arist. Hist. Animal, l. 2. cap. 4.* At 5 Years of age in an ordinary growth the procerity is half of that which will be attained at full age, *Aristot. de Generat. Animalium, l. 1. cap. 18.* though *Pliny l. 7. cap. 16.* assigns that proportion to *trimatos* or 3 Years of age, but mistakenly, as it seems.

The ordinary Period of the Humane Procreative Faculty in Males 65, or at most 70; in Females 45, or at most 50. *Arist. Hist. Animal, l. 5. cap. 14.*

The several Periods of the Ages of the Life of Man according to *Hippocrates* divided into 7, viz. at 7, at 14, at 22, at 35, at 42, at 61, and from thence to the end of Life, which at most is 81 or 84, upon the greatest ordinary Account. *Vide Rhodogin. l. 19. cap. 21.*

So that although the Humane Nature, as to that part of it that is Corporeal, is subject to changes and corruptions, and not of so firm and stable a consistence as the Heavenly Bodies, and consequently not so capable of a permanent and fixed constancy and continuation as they; yet by the constant and unintermitted Influx of the Divine Providence this corruptible and mutable Nature of Mankind, yea and of the other perfect Animals, is admirably preserved in the same measure of extent, regular procedure, and length of duration, as it hath been many Thousands of Years since. Indeed it may be possibly true, that Accidents, accidental Occurrences, Intemperance, ill and noxious *Effluvia* from the Earth, Waters, and intemperature of the Air, and other Accidents may in these latter Ages of the World produce some such Diseases and accidental Disorders as may possibly more infest Mankind, and occasion more Mortality than in former Ages. But as to the regular and ordinary course of Natural procedure and state of things with Mankind, yea and other Animals, there seems to be little or no decay or variation from what hath been formerly.

Cubit, *Habet autem omnis Cubitus sex Palmos, & Palmus quatuor digitos, & Digitus sex grana hordei.* This was the usual *Mosaical* Legal Cubit which they used in Measures of Building; the length of *Ehud's* Dagger, *Judges* 3. 16. and that measure whereby the dimensions of the Ark are measured: though besides that common Cubit they had among the *Jews* and *Egyptians* two larger sorts of Cubits, one called *Cubitus Regius*, which was 3 Inches longer than the ordinary Cubit; and the other called *Cubitus Geometricus*, which was double to the common Cubit, viz. 3 Foot, or according to others, 6 common Cubits; viz. 9 Foot.

These Measures according to the *Roman* or *Latin* Account are as followeth.

4 Barley-corns breadth make 1 Digit.

An Inch [*Uncia*] consisted of 5 Barley-corns and $\frac{1}{2}$ of a Barley-corn, or which is all one, the breadth of the Thumb, or, 1 Digit and $\frac{1}{2}$ of a Digit.

The Palm consisted of 3 Inches, or which is all one, of 4 Digits, or 16 Barley-corns.

Spithama, the Span consisted of 3 Palms, or 9 Inches, or 12 Digits, or 48 Barley-corns.

Pes, a Foot consisted of 4 Palms, or 12 Inches, or 16 Digits, or 64 Barley-corns.

Cubitus, a Cubit consisted of 6 Palms, or 18 Inches, or 24 Digits, or 96 Barley-corns.

Gressus, a Step, two Foot and a half; in *Greek* βῆμα.

Passus, a Pace, consisting of 2 Steps, or of 5 Foot according to the *Roman* Account, but according to the *Greek* Account 6 *Roman* Feet and $\frac{1}{4}$; so that the *Grecian* Pace was longer than the *Roman* by a Foot and quarter.

Oreya, or a Fathom, the distance between the extremities of the Fingers of each Hand, the Arms being extended, which very near answers the length of any person from Head to Foot; and to reduce it to a certainty, the usual estimate thereof is 6 Foot. *Vide de hac re Danielem Angelocratorem de Ponderibus & Mensuris.*

The usual Computation according to a *medium* or proportion of the height of a Man is 6 Foot, or a regular Fathom, or 4 Cubits: So *Vitruvius*, *Pes est sexta pars altitudinis corporis, Cubitus quarta*: with this agrees *Kircher*, *ubi supra*; *Altitudo humana è quatuor communibus Cubitis Egyptiacis, unus quoque Cubitus sex Palmis, Palmus quatuor digitis.* So that the ordinary height of a Man is 96 Digits which the ancient *Egyptians* estimated to be equal to that Mystical Cubit among them stiled *Passus Ibis*, or the Trigon that the *Ibis* makes at every step, consisting of 3 latera, each 32 Digits, amounting in all to 96 Digits, the common Measure of the procerity of a Man, or 4 common Cubits.

These were the very ancient estimates of distances taken from the Parts of a Man, and their extent; namely, the Finger, the Thumb, the Span, the Cubit, the Fathom, the Foot, the Step; and these were the estimates and reduction of them to known and certain Measures, and these Proportions are still, even in our Age, in Men that are of an ordinary stature: The Fingers breadth now as anciently 6 Barley-corns breadth; the 4 Fingers or Palm about 3 Inches; the Span, the Cubit, the Foot, the Step,

formerly (abating that Concussion which the Perfection of the Humane Nature suffered by the first Fall, and the shortning of Mens Lives, which is of another Consideration.)

And therefore I am not so apt to attribute that firm Consistency of the Heavenly Bodies, their constant uninterrupted and invaried Motion, and those other Indications of Permanency and Perpetuity, barely or singly to the singular and indissoluble Texture of their Nature or Composition, as to that incessant Influx and unintermitted Causality of the Divine Power and Providence, which I so plainly see conserves almost an equal regularity in the Motions, Processes, Succession, and Condition of poor, frail, Sublunary Bodies, which in their little Period belonging to their specifical and individual Nature, have the same regularities and orders now as formerly, and in the whole Systeme of their specifical Nature preserved in the successive Individuals for many thousands of years, obtain the same regularity, order, and method of Existence, without decay, as it hath always held.

This Supposition therefore of the gradual decay of the state of Humane Nature, though *in hypothesis* it would strongly infer a late Origination of Man, yet it is false *in thesi*, and so concludes nothing touching the Argument in hand, namely, the Origination of Mankind in some determinate Point of Finite Duration.

An Ingenious Person, in a new Essay of Natural Philosophy, Entituled, *New Principles of Philosophy, Part. 2. Cap. 22.* tells us: That the Sun or Fiery Region gains gradually upon the Inferior Elements, so that the greatest Declination of the Sun in the time of *Hipparchus* and *Ptolemy* was observed to be 23 deg. 52 min. but is since found to be reduced to 23 deg. 30 min. or 28 min. which is a necessary Consequent of the Suns gradual approximation towards the Earth: And if that should be so, it were a necessary Argument of the Origination of the World, and with it of Mankind, within a certain Period of Time. But we must not be over hasty in allowing of that Position; for every Day gives us Instances how difficult it is exactly to find out the Distances of the Heavenly Bodies, Lines, and Motions, especially when we come to measure them by Minutes, or Parts of Minutes, which cannot be effected but by Mathematical Instruments, which can never reach to a perfect exactness in this nature.

C A P. VII.

The Sixth Evidence of Fact proving Novitatem generis humani, namely, The History of the Patres familiarum, and the Original Plantation of the Continents and Islands of the World.

IN Profane Authors and Historians we may find the Roots and Founders of many Kingdoms, Monarchies, and States, either by Victories, or by Emigrations, or by Intestine Commotions, or by common Consent of the People or Inhabitants: Thus we find the Foundation of the later States or Monarchies in that Constitution at least wherein they now stand,
or

or in some former Ages stood : As the Foundation of the *English* Monarchy in the *Norman* Conquest, and before that, the Foundations of the *Saxon* and *Danish* Monarchies in this Kingdom, in the old Histories of *Hoveden*, *William* of *Malsbury*, and others. The like might be found for the Foundation of the *French*, *Spanish*, and *Danish* Kingdoms, the Empire of *Germany*, of the *Grand Seignior*, and others. And ancienter Histories give us an account of the Foundation of the *Roman* Empire in *Romulus*, of the *Grecian* in *Alexander*, of the *Persian* in *Cyrus*, of the *Babylonian* in *Nabonassar*, of the *Assyrian* in *Belus*, *Ninus*, *Semiramis*. But yet, as is formerly observed, the Discovery of these Originations of Civil Coalitions into Kingdoms and Empires, do not lead us up to the Origination of Mankind, in the material Constituents of these Kingdoms and Empires; for the Men that made up these Civil Bodies, or at least their Ancestors, had a Being before, though perchance under a different form of Civil Government, or under some other Names or Governour : As the several States of *Greece*, before their coalition into one Kingdom under *Alexander*, or *Philip* his Father, subsisted in several smaller Principalities or Commonwealths. For these kind of Histories, though they afford us the Inception of new Governors or Governments, the *Capita Regiminum*, yet they give us not the *Capita Familiarum* : For though *Romulus*, for Instance, laid the Foundation of the City and Monarchy of *Rome*, and became as it were the Parent of that City and State, yet he was not the Parent of the Men that were the material Constituents of it, for they were a *Farrago*, or Collection of many people that had their Existence long before in themselves or their natural Progenitors. And upon the same account it is, that although many Histories, as *Diodorus Siculus*, *Thucydides*, *Herodotus*, and others, do give us some true and some fabulous Derivations of the Names of Places or Countries, from the Men that seemed to be the Heads or Roots of those Denominations, yet though they should be all admitted to have truly given those Denominations to those Countries, it doth by no means follow, that they were the Parents of the Inhabitants thereof; but they were such, as either by War, or Power, or Election of the People, presided in those places, and gave them thereupon their denomination. Thus they tell us, That *Helen* gave the denomination to that part of *Greece* which was called *Helenica*, and those *Grecians* were called *Helenistæ*. *Pelasgus* was he that gave the denomination to the *Pelasgi*, another part of *Greece*. *Latinus*, to *Latium* and the *Latins*. *Danaus*, to another Cept of the *Grecians*. *Tenes*, the Son of *Cygnus*, to *Tenedos*. *Cretas*, to *Creta* and the *Cretians*. *Italus*, as some say, to *Italia* and the *Italians*. *Romulus*, to *Rome* and the *Romans*. And infinite more such Allusions of Denominations of Countries and People, from the Name of him that presided either in the Army, or Colony, or Countrey unto which such Denominations were after given : And yet *Latinus*, nor *Pelasgus*, nor *Cretas*, nor *Helen*, were any more the Natural Parents of all those persons that were called *Pelasgi*, or *Cretenses*, or *Helenistæ*, or *Latini*; than *Romulus* was the Natural Parent of all those people that were the first Inhabitants of *Rome*, or of those that were after Incorporated and Infranchised into that Name, City, or Government. Indeed these were such persons, as perchance were the Captains of those Armies or Colonies that were commanded by them,

or

or were such as were the Heads or Founders of the Monarchies or Kingdoms that they thus founded; or such as did *sustinere nomen & personam totius communitatis*, and thereby had the Power and Privilege to give a Denomination to those Countries or People they governed, calling them after their own Names: But they were not the Natural Roots, or common Natural Parents of all them that bore their Denomination, though it may be very likely they had some Children of their own which might participate in that common Denomination.

This therefore singly considered, namely, the Denomination of People from some one Person, is not sufficient to assure us that all those Persons that bore that Denomination were derived by Natural Propagation from him whose Name they so bear; but though it may be true that such a Denomination may be communicated to such only, as descended by Natural Propagation from him, as I shall hereafter instance, yet it may be otherwise: Therefore I have no reason to conclude, That wheresoever I find a Society of Men bearing the Denomination of one Man, that that Man was the Natural Parent of those that bear that Denomination, unless I have some better Evidence than Allusion of Names, since it is apparent in these Histories that it is otherwise.

Upon this Reason it seems plain, that it will not be possible from any Prophane History to find the Original Parents of any one Kingdom, much less of Mankind. It is very evident indeed, that by help of a continuation of Prophane Histories or other common Monuments well kept together, the Genealogies and Ramifications of some single Families even to a vast and numerous extension may be preserved. But that will not do the business that I intend. For it is rare, and beyond Example in any Author that I know, that the entire and complete Pedigree of the whole Descendents of any particular Family is deduced down through the space of a thousand Years last past, whereas such Instances as must serve my turn must be such as are at least five thousand Years old, or otherwise I shall fail in the application of this Topick now in hand to the Matter in question.

It remains therefore that for Instances of such Antiquity useful to my purpose I must resort to the ancientest History, namely, the History of *Moses*, which as it is a History of the ancientest Times and Occurrences in the World, so it is a History that was written at the greatest distance from this Time, and nearest to the Times and Things whereof he writes; no History in the World being so ancient as this by near eight hundred Years, for so long lived *Moses* the Author of this Book before *Homer* the first Prophane Historian that is extant.

And if any Man shall object against the competency of this Instance, 1. Because the same *Moses* whom I use in this Topick is the person that asserts the thing *de quo ambigitur*, namely the first Production of Mankind, and therefore that he is incompetent in this Case: 2. Because all that urge the Testimony of *Moses* urge him as infallible, divinely inspired, and so whatsoever he saith must not be contradicted; and upon such a Supposition there were a compendious way of evincing the Question in hand of the Inception of Mankind, by telling us that *Moses* who wrote by an infallible Spirit and Inspiration, tells us that Mankind was Created by GOD about 6669 Years since according to the *Seventy*; and

and so there needs no farther Reason, nor can be any farther Controversie touching it.

To this I shall say these things: That although it is certain that *Moses* was Inspired by an Infallible Spirit in what he wrote, and that he doth in plain terms tell us that Man was at first Created by Almighty God, and therefore to me or any else that is satisfied of the Infallible Authority of the Holy Scripture, this is sufficient to satisfy that the truth is as *Moses* hath informed us, and there needs no other Argument to support my Faith of the truth hereof: yet because I am writing of those Natural and Moral Evidences of this Truth that may be of strength enough to evince the truth of this Assertion, upon the apparent Moral Evidences of the credibility of the Writings of *Moses*, I shall here urge the Authority of *Moses* for the Proof of the Matters of Fact in question as I would urge *Herodotus* or *Livy* to prove a Matter of Fact alledged by them; and at this time and in this Dispute shall only use his Testimony as a Moral Evidence of the Truth he asserts, as an Evidence of Credibility. And as I shall not exact a Subscription to the Truths he delivers upon the account of his Infallibility, so it is not reason to deny that Credibility of what he relates, which would be allowed to a Prophane Author; especially when it carries with it singly, without the contribution of the Supposition of a Divine Authority, as great an evidence of truth as any History in World besides,

And as to that which is said, That the Supposition of the truth of what *Moses* asserts, is to suppose the thing controverted, because *Moses* asserts the Creation of Mankind: I say, 1. That I shall not at all instance in that Assertion as to determin the Question, but only so far forth as it is a Moral Evidence of the truth of it; namely, That this was a thing believed near 4000 Years since by Wise Men, such as *Moses* was, and by them that were much nearer to the time wherein the Origination of Mankind and those other Matters of Fact that are contributory to the Proof thereof was transacted; and therefore in common Reason must needs have a clearer Tradition and Evidence of the truth in this matter than the Ages so many thousand Years after; but this I shall reserve to its proper place. 2. In this place I shall not at all insist upon the Tradition of *Moses* touching the Creation of Man, but only upon those Historical Narratives delivered by *Moses* relating to such Matters of Fact that were nearer his time, and such as he might very reasonably know and deliver as an Historiographer; namely, the Propagation of Mankind after the Flood, and the Reduction of most of the considerable Nations of the World to their several Roots or Parents by Natural Propagation; and the credibility of his Relation touching it; Though even the credibility of this Relation of his gives a great Evidence and Attestation, even upon a Moral account, to what he writes touching the Creation of Man, and those parts of the History antecedent to the Flood.

The Sum therefore of the *Mosaical* History that I shall in this place make use of, is this;

1. That a Universal Flood was brought upon the Earth in the Year 1656 after the supposed Creation of Man according to the *Jewish* Account, although the *Septuagint* allows a longer Period between the Creation and the Flood.

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2. That

2. That by that Universal Flood all Mankind were destroyed except eight persons, namely, *Noah*, his Wife, his three Sons, *Shem*, *Japhet*, and *Ham*, and their Wives.

3. That all the Race of Mankind after this Flood, were derived by natural generation from these three Sons of *Noah* and their Wives.

4. That the particular Descendents from these three Sons of *Noah*, are truly described and set forth in the 9th, 10th, and 11th Chapters of *Genesis* by their several Names, and drawn down from that Root to the filling and peopling of the whole Earth: *Gen. 32. These are the Families of the Sons of Noah, after their Generations, in their Nations; and by these were the Nations divided in the Earth after the Flood.*

5. That after the Flood, in the time of *Phaleg*, the Languages of the World, especially of the Families of *Cham* and *Japhet*, were confounded, and the Nations proceeding from these Families dispersed.

6. That the Family of the *Israelites* was deduced through these ensuing Patriarchs, viz.

Sem.

Arphaxad, born two years after the Flood, *Anno mundi*, 1658.

Salah.

Heber.

Peleg.

Ren.

Serug.

Nahor.

Terah.

Abram.

Isaac.

Jacob marries *Rachel* and *Leah*, *Anno mundi*, 2192.

Levi, and the Twelve Patriarchs.

Kohath.

Amram.

Moses, born in the Year of the World, 2373.

So that from the Flood to the Birth of *Moses* the Descendents from *Jacob* grew into a great Nation, for in the 80th Year of *Moses* Life the Males of the Children of *Israel*, that were above 20 Years old, were above 600000, besides the *Levites*, and besides Women, and Children that were under 20 Years old, *Numb. 2. 32.* and this great Increase of this People happened within the compass of about 260 Years. And thus, according to the *Jewish* Account in the Holy Text, the Period between the Flood and the *Exitus* of the People out of *Egypt* was about 800 Years: But indeed the Account of the *Septuagint*, partly by the Interfection of *Cainan* in the Genealogy, and partly by adding 100 Years to that *Technogonia* of the Patriarchs before *Abraham*, have made the Period larger by 884 Years. So that according to that Account, the *Exitus ex Egypto* was at least 1684 Years after the Flood.

Now this History of *Moses* of the peopling of the World by the Posterity of *Noah*, doth these two things:

1. It gives us an Account of the Original of all the Nations in the World, not from bare allusion of Names, nor from bare Coalitions into Civil Societies in which they were formed, as *Romulus* was the Founder of

of the *Populus Romanus*, and *Pelasgus* of the *Pelasgi*; but it gives us the Account of their Origination by Propagation from the Natural Roors and Parents of them. 2. Although notwithstanding this Instance, it may be possible, that though the Natural Derivation of all Mankind was from *Noah* and his three Sons, yet the Progenitors or Ancestors of *Noah* might have no Original, but might be Eternal, according to the *Hypothesis* of *Aristotle*: yet when I find the same Author that gives me an Account of the Derivation of all the World from *Noah* and his three Sons, and that with most clear evidence and credibility, it gives me a very great Moral Evidence of the truth of his Relation touching the first Origination of Man by Creation: For doubtless both were derived to him by a constant Tradition from those from whom he was descended, and it is not reasonable to suspect the truth of the one, since we have a strong Moral Evidence for the truth of the other; namely, the General Flood, and the preservation of *Noah* and his Family, and the derivation of all Mankind from him and his Sons: He that hath sufficient reason to believe the History touching the latter, will have little reason to doubt the truth of the Relation touching the Origination of Mankind; which as in it self it seems reasonable, and no other possible Supposition to compass it but by a Supernatural Production, so it hath a most excellent congruity with the subsequents of the Holy History touching the Descendents from the first Man, the Flood, and the Re-peopling of the World from *Noah*.

Now the Moral Evidences of the credibility and truth of this History are these:

1. *Moses* that wrote it, had the best opportunity that could be to give a true Narrative of this Fact touching the Flood, and the Productions of Mankind by Generation from the Children of *Noah*: For, 1. It is evident by the Writings of this Man that he was a very Learned knowing Man, inquisitive after all sort of Learning; a Man in great Power and Esteem in the Court of *Egypt*, and after that a great Governour of a very great People, which he governed with admirable Wisdom; and by this means had opportunity to furnish himself with all Monuments and Evidences of Antiquity that might be conducive to the Discovery of former things, and his Learning, Judgment and Ability to make an excellent use of these helps was also remarkable. Again, 2. He lived not far remote from the transaction of these things that he wrote, in comparison of the Writers or Historians of after Ages: He dyed above 500 Years before *Homer* lived, which yet is the ancientest Historian that *Greece* affords, and he lived within the Period of 800 Years after the Flood and the division of the World among the Posterity of *Noah*. *Livy* and other Historians give us an account of the Affairs of *Rome* for above 600 Years before they were born, and many other Historians for a much longer time, and we give them credit; and certainly such an Occurrence of such remark as the Universal Flood and the Re-peopling of the World must needs be fresh in memory for such a Period of about 800 Years; especially considering that the Peopling of the World was a gradual and successive business, that must needs preserve its Memory even upon its own account, for it was still current, and many were concerned in it in the preservation of the laying the first Foundations of their States and Republicks. 3. As the Period or distance of time was not great, so if we consider

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the longevity of Mens Lives in those times, the Period was not much longer than three Generations, and so the Tradition of things might be preserved fresh and certain unto the time of *Moses* without any great difficulty: For *Shem* that was an Eye-witness of the Flood was contemporary with *Abraham*, *Abraham* was contemporary with *Jacob*, *Cohath* the Son of *Levi* was contemporary with *Jacob*, and with *Amram* the Father of *Moses* and Son of *Cohath*: So that the Tradition of the Flood, and all that succeeded, might be handed from *Shem* to *Abraham*, from *Abraham* to *Jacob*, from *Jacob* to *Cohath*, from him to *Amram*, and from him to *Moses*. 4. Besides all this, without any more Hands in the delivery of it over, it appears that *Abraham*, *Isaac*, *Jacob* were great Men, had great Families and Wealth, were Men of great Note and Observation for their Learning and Knowledge, Men that had great Expectations, having a Promise of that Land to be given to their Posterity; and although they kept Sheep and Cattel according to the custom of those Eastern Countries, yet they were great Princes, and Men of excellent Education: doubtless *Abraham* instructed his Son in all the Knowledge that he had received by Tradition from his Ancestors, the like did *Isaac*, and after him *Jacob*. And therefore it might very reasonably be thought that the Traditions of former things were kept fresh and pure in this Line of Men.

And though we have no Writings extant ancients than *Moses*, yet probably in his time there might be Books, or at least Monuments and Inscriptions of things done before his time, which might preserve the Memory of things past as well as our Books do now: For it is not to be doubted but Writing was much ancients than *Moses* his time, *Job* speaks of Writing as a thing in use in his time, *Job* 19. 23, 24. and *Josephus* tells us of certain Pillars erected by *Seth*, wherein the Monuments of Learning and History were preserved, *Joseph. l. 1. Antiquitat. cap. 2.* and *Moses* mentions Books written by others, either before or in his time.

I very well know that *Moses* had a greater means to know all those things that to a Jew or a Christian are of greater weight than all these; namely, the Infallible Conduct, Revelation and Inspiration of the Divine Spirit: But the truth is, we are fallen into an Age of many Christians in Name and Profession, that yet think it below them to believe upon that account without some farther Evidence that may satisfy their Reason; I have therefore subjoyned these and the following Considerations to make it appear, That upon the bare account of Moral Evidence more is to be said for the truth of the History of *Moses* than may be said for the truth of any other History of things transacted before the life of the Historiographer.

2. Again, we usually allow such an Historian to be worthy of belief, even in those things whereof we have no other Evidence than the Credit of the Historian, if we find many things delivered by him to have so great an Evidence of Truth that they cannot well be doubted by any reasonable Man. I will admit that *Moses* delivers many things that were antecedent to him, and can have now no other Evidence than the Credit, Prudence, and Fidelity of the Historian himself; as touching the Derivation of the Nations of the Earth from the several Sons of *Noah*, and
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though possibly when he wrote there was a vigorous and authentical Tradition or other authentick Evidence of the Truth of them, which it may be is now so lost that we have no other Evidence thereof but the bare Relation of *Moses* (this I do for the present admit, though in the sequel it will appear that there are other concurrent or collateral Evidences that assert and attest it) yet it is plain that the same *Moses* writes many things that have so undoubted and so solid a Tradition asserting it, that no Man can doubt it that will not first deny his own Reason. As for instance, Can there be any doubt but that the Family of the *Israelites* were derived from *Abraham*, *Isaac* and *Jacob*, and the 12 Patriarchs; that they were brought out of *Egypt* under the Conduct of *Moses*; that they lived in the Wilderness forty Years, and were there miraculously fed by Quails and Manna, since this was written in that very Time and Age that could and would have contradicted it, if false? Can there be any doubt but the History of his making the Ark and the Tabernacle were true, since both continued for many hundred Years after? Can there be any doubt of the History of the Fiery Serpents, and the Cure of their Biting by the Brazen Serpent, which continued in the Wilderness until the time of *Hezekiah*, which was many hundred Years after, with an unquestionable Tradition of the reason of its Making? Can there be any doubt whether he divided the Land of *Canaan*, in such manner as is set down, in his life time, namely, to the two Tribes and a half on the farther side of *Jordan*; and his Prescripts for the future dividing of the rest, since it was enjoyed according to those Prescripts for many hundreds of Years after, and part of it until the coming of Christ? Can there be any doubt that he gave those Laws Moral, Judicial and Ceremonial recorded by him, since those very Laws have been for the space of near two thousand Years the very Rule and Model by which the Sacred and Civil Concerns of that People were always ruled and governed, and that in contemplation of the same Law that was given by the Hand of *Moses*, and so recorded in his Books of *Exodus*, *Leviticus*, *Numbers* and *Deuteronomy*? I say we have not greater Evidence that there was such a Man as *Alfred*, *Edward* the Confessor, or *William* the Conqueror; or that there were such Laws of the Confessor, such a Survey of *England* called *Doomsday* made by *William* the Conqueror, such an Abbey founded by him in Memory of his Victory in *Suffex* called *Abbatia de Bello*; such Laws made by *H. 1.* as are transcribed in the Red Book of the *Exchequer* under that name; such a Charter of King *John* made at *Reiningmead*, or such a Charter as *Magna Charta* made by King *H. 3.* than we have that there were such Laws, such Distributions of the Land of *Canaan*, and such things done in *Egypt* and the Wilderness as are recorded by *Moses*. The Moral Evidence that ariseth from this Consideration is this; That since in these things that are capable of an incomparable Evidence of Credibility in respect of the time wherein they were done (though very ancient, and exceeding the Age of any other Author) we find such indisputable Evidence of Truth, we have reason to give credit to the same Author relating the Derivation and Beginning of Nations from the Sons of *Noah*, though in respect of the greater Antiquity thereof we have not any other concurrent Testimony but that of *Moses*: And the rather, though we have not those other Evidences thereof, yet *Moses* might have as unque-

unquestionable Evidences of the things transacted between his time and the Flood, which at the greatest Account was not above 1600 Years; but by the *Jewish* Account about 800 Years before his time, as we now have of those things which were transacted in the time of *Moses*, which is above twice 1600 Years distant from our time.

3. Besides the Relation of the Traduction of the several Nations of the World from the Sons of *Noah*, delivered by *Moses* in that short Pedigree or Extract, *Gen.* 10. we have very many probable Evidences of the consent of all succeeding Ages to that Genealogy of the World; as, 1. The common Tradition of those Ages that succeeded shortly after *Moses*, which commonly esteemed them so descended: 2. The Analogy of their several Names of the Countries wherein *Moses* supposed the first Fathers fixed, as *Canaan*, *Misraim* or *Egypt*, *Chittim*, *Assur* or *Assyria*, and infinite more of this kind which are not needful here to be remembered, since *Bochart* and those that have transcribed out of him give us abundant Instances. Neither is it reasonable to object against this that which is before observed in relation to other Allusions of this kind, namely, That those Denominations of Places might not be so much from the Roots of those Nations or Families, or from the Captains or Governors that gave Names to those Countries they conquered; because the Historian *Moses* gives us in express terms the reason of the Denomination to be from the very Parental Roots of those People or Families: and 2. Because those Heads of Countries or Nations who were nearer to *Moses* time gave the Denomination to the Countries which in effect they peopled; as *Edomites* to the Posterity of *Edom*, *Moabites* and *Ammonites* to the Posterity of the two Sons of *Lot*, *Madian* to the Posterity of *Abraham* by *Keturah*, and many more: And we have as great reason to suppose that these grew and increased into great Nations in the time of *Moses*, since the People of *Israel* who descended from a later Stock than any of these within the space of little more than 200 Years, increased into so great a People, that in their going out of *Egypt* their Males of above 20 Years old amounted to 600000, whereof use will be made hereafter.

The late Discovery of the vast Continent of *America* and Islands adjacent, which appears to be as populous with Men, and as well stored with Cattel almost as any part of *Europe*, *Asia*, or *Africa*, hath occasioned some difficulty and dispute touching the Traduction of all Mankind from the two common Parents supposed of all Mankind, namely *Adam* and *Eve*; but principally concerning the storing of the World with Men and Cattel from those that the Sacred History tells us were preserved in the Ark. And the Objection runs thus:

It seems apparent by all Geographical Descriptions of this lower World, that the whole Continent of *America* and the adjacent Isles thereof are no way contiguous to any parts of *Asia*, *Europe*, or *Africa*, but disjoyned from the same by huge and vast Oceans; divided from the Western Coasts of *Europe* and *Africa* by the vast *Atlantick* Ocean; from the North parts of *Europe* by the great Frozen Seas lying between it and *Greenland*, which seems to be the Northern Coast of *America*; from the North-east part of *Asia*, *Tartary* and *Cathay* by the *Fretum Anian*; from the East parts of *China* and the *Philippine* Islands by the *Oceanus Pacificus* of above 2000 Leagues breadth, and is divided from the great lately dis-

discovered Island *del Fogo* by the Straits of *Magellan*, and that Island again divided from the uttermost Southern Continent (if any be) by a great Sea, which though not formerly known to the *Europeans* and *Asiatics*, being divided from *Asia* and *Africa* by the great *Indian Ocean*, yet hath been lately discovered by *Le Maire*.

It is also evident that this vast Continent and the greatest part of the Islands near adjacent to it are well stored with Men, and Beasts of all sorts: *Laetius* in his Disquisition touching the Original of the *Americans*, in his 8th Observation gives us an account of above thirty Millions of *Americans* destroyed by the *Spaniards* in those Parts of *America* that they have usurped to their own Dominion, which is not the hundredth part of that great Continent.

The Inhabitants of this Continent as they greatly differ among themselves, so they extremely differ from the *Asiatics*, *Europeans* and *Africans* in their Language and Customs, they recognize no Original from these Parts: it is true, they have some resemblance of the *Scythians* or *Tartars* in some of their barbarous Customs, and some Words they have which seem to carry a congruity with Words of other Nations; But these are but slender Evidences to prove their Traduction from *Asia*, *Africa*, or *Europe*, especially since no Monument is extant that gives an account of their Traduction or Migration thither, and the rather, because it was a World wholly unknown to the *Europeans*, *Africans* and *Asiatics*, till the Discovery thereof made by *Americus Vesputus* and *Christopher Columbus* which is but of late time.

Again, *Acosta* tells us in his 4th Book, Cap. 36. there are divers perfect Animals of divers kinds in *America* which have none of the same kind in *Europe*, *Asia* or *Africa*, as their *Pacos*, *Guanacos*, and *Indian Sheep*, and on the other side, many species of Birds and Beasts in these Countries which are not found in *America*.

And upon these Premises they thus argue:

That since by all Circumstances it is apparent that *America* hath been very long inhabited, and possibly as long as any other Continent in the World, and since it is of all hands agreed that the supposed common Parents of the rest of Mankind, *Adam*, *Noah* and his three Sons, had their Habitations in some Parts of *Asia*, and since we have no probable Evidence that any of their Descendents traduced the first Colonies of the *American* Plantations into *America*, being so divided from the rest of the World, the access thither so difficult, and Navigation the only means of such a Migration being of a far later perfection than what could answer such a Population of so great a Continent; That consequently the *Americans* derive not their Original either from *Adam*, or at least not from *Noah*; but either had an Eternal Succession, or if they had a Beginning, they were *Aborigines*, and multiplied from other common Stocks than what the *Mosaical History* imports.

And although their Traditions in *America* be mingled with some things fabulous, yet they seem to favour this Conclusion. Some of them acknowledge the Creation of all things by God, and that He fixed certain Arrows in the ground, and from thence the Original of Mankind came, *de Laet. de origine gent. Americanorum, Observat. 6.* Many of them have a Tradition of a Flood, at least in the Continent of *America*, which dis-

dispeopled all the Countrey, and that out of the Lake *Tilocaca* the great God created at several places the common Parents of Mankind; *ut videre est apud eundem, pag. 115, & 105.* or that certain Men leapt out of a Cave called *Picare Campo*, or *Tampo*, and were the first Parents of Mankind; and therefore they hold the *Tambi* the most ancient of Mankind.

Besides, if we could suppose that either *ex industria*, or by accident some might pass the Seas from *Africa*, *Asia* or *Europe* into *America*, yet it is not easily conceivable how Beasts, especially of prey, should be transported into *America* through those large Seas after the Deluge; neither is it possible to suppose that all the Beasts of *America*, which are many of them wholly different in kind from those of *Europe*, *Asia* or *Africa*, should be conducted over the Seas to be preserved in the Ark, and after be transported again thither: and the improbability thereof is so much the greater, because many of the perfect Animals found in *America* have none of the same kind in *Europe*, *Asia* or *Africa*, and *è converso*, but are as it were appropriate to their proper Regions, though some there are that are common to *America* and the other Countries on this side. And therefore either the Flood was not universal, or new Creations of Animals proper to *America* hapned there after the Flood.

I answer to these difficulties: The Author of the Book called *Præadamitæ* hath set down certain Suppositions, which though they salve the difficulties, yet they cross the tenor of the *Mosaical History*, viz,

1. That *Moses* in the History of the Creation of Man doth not set down the Original of Mankind, but only the Original or common Parent of the *Jewish Nation*: that *Adam* was not the first Man that was created, but there were very many Ages of Men before him that peopled the greater part of the World long before the Creation of *Adam*: And consequently, though *Adam* was the common Parent of the Inhabitants of *Palestine* and many of the Countries adjacent, yet those that peopled the far greater part of the World, especially the Parts of *America*, were not descended from him.

2. That the Flood in *Noah's* time, though it drowned the Descendants from *Adam* and the Countries inhabited by them, namely, *Palestine* and some of the adjacent Countries, yet it was no Universal Deluge, but the far greater part of the World and the Inhabitants thereof were free from that Deluge; and consequently that *Noah* and his three Sons were not the *Capita familiarum* of the whole Earth, but only of those Families and Nations that were Inhabitants in *Palestine* and some of the adjacent Countries; and consequently that many of the Countries of *Europe*, *Asia* and *Africa*, and the entire Continent and Islands of *America* were not overwhelmed with this Deluge, though possibly they might have their particular Deluges, as hapned in *Greece* and *Thessaly* under *Deucalion* and *Ogyges*: and in favour of his Opinion alledgeth the long Computations of the *Egyptians*, *Babylonians* and *Chineses*; the vast Armies of *Ninus*, *Semiramis*, *Zoroaster* and others, and the great extent of their Monarchies suddenly after the Flood; which could not, as he supposeth, be so suddenly propagated from *Noah* and his three Sons: But especially insists upon the greatness of the Continent of *America* and the Islands thereof, the populousness and great store of Men and Animals, which could not be

in any tolerable probability transported from Countries divided by such great Seas from it.

And likewise he insists upon the Antiquity of the *Egyptian* Computations, and upon that fond Reason of the *Egyptian* Priest in *Plato's Timæus*, That *Egypt* is the most ancient of the habitable World, because neither subject to Total Inundations by reason it hath no Shoars, nor to Conflagration because of the Inundation of *Nilus*: That consequently *Palestine* and the Countries adjacent were only drowned, but the upper *Asia* from whence the Dove fetched his Olive-branch was never thereby totally overwhelmed. This is the principal Subject of his 4th Book of what he calls his *Systema Theologicum*.

If there were no other fault in this Author, there is this one that renders him inexcusable; In that he in all places of his Book pretends to own and maintain the Truth and Sacred Authority of the *Mosaical* History, and seems to maintain some of his Tenets by Scriptural Suffrage, and yet substitutes such Assertions as any Man, and much more the Ingenious Author himself could not, cannot choose but see, that if they were true would necessarily not only weaken but overthrow the Authority and Infallibility of the Sacred Scriptures; at least where it seems to cross the Fabulous Traditions of the *Egyptian* and *Babylonian* Antiquity, to which Fables he gives more credit than to the Holy Scriptures, and submits the Authority of these to the Authority of those: and while *Judas* like he seems to kiss these Sacred Oracles, he perfidiously betrays their Authority, and draws their Truth as much as he can into suspicion. Such a Discourse had better become a plain professed Infidel, and is so much the worse, in that it is done sily, and by invidious Insinuations, *sub Amici nomine*: If he durst have spoken out, he would have told us roundly and plainly that the Eleven first Chapters of *Genesis* were but Fables; That *Genesis* 3. 20. where *Eve* is said to be the Mother of all living; That *Gen.* 7. 19, 20. where it is said, that all the high Hills that were under the whole Heavens were covered; That *Gen.* 7. 23. where it is said, that every living substance was destroyed which was upon the face of the Ground, both Man and Cattel and Creeping things and the Fowls of the Heaven, and *Noah* only remained alive and those that were with him in the Ark; That *Gen.* 10. 32. where it is said, that these were the Families of the Sons of *Noah* after their Generations in their Nations, and by these were the Nations divided on the Earth after the Flood, are not to be believed, and are but meer Fictions: This had become a Man of his Principles, but he durst not speak out.

I shall not in this place undertake a particular Answer of all that this Man hath said; it is besides my intencion in this place to make so large an excursion, and many others have done it to my hand: only I may say thus much, That a Man that gives so much credit to the *Egyptian*, *Caldean*, and *Grecian* prodigious Traditions, in derogation of that very Scripture which this Man in Complement at least seems to venerate, might have remembred, That the Tradition of the Universal Flood hath obtained in all places, even among the *Americans* themselves, and that the Race of Mankind was thereby destroyed, except some few that were preserved: That the most severe and observing Sect of the Philosophers, namely the *Stoicks*, have constantly held vicissitudes of Destructions of Mankind

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by successive Deluges and Conflagrations, and a new Peopling of the World successively by the Power of God: That *Aristotle* himself insinuates those great Vicissitudes, especially of Deluges in those Periodical great Winters which he supposeth to have hapned, and for the future to happen in this lower World. But of this hereafter.

And although this Author in his 8th Chapter of his 4th Book gives us a computation of a declivity of 600 Perches from the Fountain of *Danubius* until its fall into the *Pontus Euxinus*, and supposeth the highest Mountains of *Armenia*, whereof *Ararat* where the Ark rested was the highest, doth not exceed the perpendicular height of one Mile above the plain of the Earth, and therefore that an excess of 15 Cubits above *Ararat* would not reach the Head of *Danubius*, or at least the upper Plains of the Upper *Asia*; yet he might have remembered, That though it were admitted, that usually the heights of most Mountains do not exceed a Mile in perpendicular height above their *Basis*, yet many Mountains are situate in the more elevated parts of the Earth, and have the advantage thereby of the height of their *Basis*: and possibly it will be found that the *Basis* of the Mountains of *Armenia* is situate in higher ground than the Fountain of *Danubius* or *Euphrates*. So that an excess of 15 Cubits above their height must in all probability cover the Plain of the Upper *Asia*.

Again, he might have remembered that *Egypt*, that from the Authority of the Fable of the *Egyptian* Priest is favoured by him with an immunity from Inundation, lyes much lower than the Plains of *Palestine*, yea than the Superficies of the *Red Sea* it self: And therefore the Water (that naturally keeps its level, neither without a Miracle can lose it) which overflowed the whole Continent of *Palestine*, even to 15 Cubits above its highest Mountains, must of necessity overflow *Egypt*, which *Aristotle* by impregnable Evidences concludes to be one of the lowest Countries in the World, and the very Production and Accretion of the Slime of *Nilus*: so that if the Flood covered *Palestine*, nothing but a Miracle could protect *Egypt* from it.

The Author of the Dissertation *De Aetate Mundi*, cap. 12. though he reprehend the *Præadamitæ*, and confutes the extravagancy of their Opinion, yet he seems to mince the Universality of the Flood: *Nullum itaque relinquitur dubium, quin unum tantum fuerit diluvium, idque universale, cujus apud omnes penè gentes extat memoria: Verùm hîc minime probocorum sententiam qui totum terræ globum ita aquis tectum fuisse existimant, ut nulla prorsus extaret ejus portio; ad hoc efficiendum multa debuissent concurrere miracula. Cum enim universæ orbis aqua non sufficiant ad obruendam tam altè terram, etiamsi omnia maria siccentur; debuissent vel plures aqua creari, vel dicendum cum aliquibus, istam aquarum molem ex aliis cæli orbibus decidisse, & demum finito diluvio ad sedes suas revolasse: Verùm hoc est piè nugari, Deus non facit miracula sine causa: Quid opus erat mergere terras ubi nec olim fuere homines, ac ne nunc quidem sunt? Stultum est putare ante diluvium aded multiplicatum fuisse genus hominum, ut omnes terræ angulos pervaserit, &c. Ut verò diluvii inundationem ultra orbis habitati terminos producamus, nulla jubet ratio, imo prorsus absurdum est dicere, ubi nulla hominum sedes, illic etiam viguisse effectus pænæ solis hominibus inflictæ.*

This indeed salves the necessity of drowning *America* and the greatest part

part of the New habitable World, when it extends the Flood no farther than there were Mankind inhabiting, and confines those Habitations possibly within the Circle of *Syria* and *Mesopotamia*. And so all the Brutes that possibly in their first Creation were produced *sparsim* through all the parts of the habitable World, as well in *America* as *Asia* or *Europe*, were safe and untouched; and all those Birds and Fowl that were within 40 or 50 Miles of the *Circulus diluvii* might easily preserve themselves by flight out of the extent of it; yea and the Brutes and Birds which were out of that supposed narrow extent of *Syria* and *Mesopotamia* where the Flood prevailed, might easily refurnish the same Continent after the subsiding of the Flood, without the wonderful and difficult including of their kinds within the Ark for their preservation, which if this Supposition hold, seems a needless Institution and Miracle by the wise God. *Gen. 7. 1.* Therefore, I confess, I am no way satisfied with this Gratification of that Author to the *Præ-Adamites*.

For first, although I take this Flood to be somewhat more than Natural, and a thing instituted by the Will of God, yet do I not esteem it a thing purely Supernatural or Miraculous, neither do I suppose those Waters created *de novo*, nor sent out of the Orbs of Heaven to drown the Earth: I do not think the Face of the Earth and Waters were altogether the same before the Universal Deluge, and after; but possibly the Face of the Earth was more even than now it is, the Seas possibly more dilate and extended, and not so deep as now; the Waters possibly more than now, and in those respects more capable of diffusion over the dry Land. For though there be many great variations in process of time in the Sea and Land, yet it seems that *ad plurimum* the Seas grow deeper, and eat lower into the Earth, and consequently more dry Land is daily acquired, and the Seas grow narrower and deeper.

Now to deliver this Supposition of an Universal Deluge from those difficulties, and that necessity of multiplication of Miracles, which that Author hath substituted, we are to consider:

1. That we are not to make our estimate of the quantity of Waters meerly by the Superficies of the Sea, but by its vast depth, which in some places is unfathomable, and by those vast subterraneous Receptacles of Water which pour themselves out in several great Ebullitions and Marine Springs: Neither is it altogether improbable that the Waters of the Sea, naturally tending downward, and being of a fluid searching consistency, might in process of time have worked themselves even almost to the Center of the Earth, and there residing in great and vast quantities, and possibly have in a manner undermined much of the appearing Continent of the Earth: so that that which the Prophet speaketh may be true literally, *Psal. 24. 2. He hath founded it upon the Seas, and established it upon the Floods*: So that there are greater Store-houses of Water than appear visible to the World. If we could suppose that the incumbent Superficies of the Earth should subside and press upon those Store-houses of Water within its bowels, it might afford a competent store to drown the Earth without a new Creation.

2. Again, we may easily compute that the quantity or extension of the Body of the Air, even that which is commonly called the Atmosphere; which at the lowest account extends seven Miles in height, might by

condensation into Water afford a competent store for the drowning of the World, and yet be again rarified into the same dimension and consistence which before it obtained: for there is that vicinity of Nature between those two Elements, that we daily see considerable proportions of the one by condensation changed into the other.

3. When we consider those immense Inundations that are Annually; and with some constant equality occasioned by great Rains, as for Instance, in the River *Nilus*, which by the Annual Rains in *Ethiopia* is raised almost every Year twenty Cubits, and overflows a considerable part of *Egypt* yearly between the Months of *June* and *October*; and the like Inundations yearly hapning by Periodical Showers in the great River of *America* called *Orenoque*, between *May* and *September*, whereby it riseth upright above 30 Foot; so that many of the Islands and Plains at other times inhabited, are 20 Foot yearly at that time under Water. And when we see that even the Ocean it self in its daily Tides, especially those that happen about the *Equinoxes*, caused, as the *Copernicans* say, by the Intersections of the Annual and Diurnal Motions of the Earth; we need not have recourse to a new Creation of Waters to perform this Office of the Divine Providence and Justice; He might by a stronger elevation of Vapours, or by an extraordinary motion of the Seas perform his purpose; which though probably it might not at the same time drown *Asia* and *America*, yet by the successive peragrations of these Waters they might drown the whole Earth, as the Inundation of *Nilus* by the Showers of *Ethiopia* make the Flood there a Month sooner than it happens in *Egypt*.

2. As to the Second Objection; I do confess it to be most true, that the Universal Deluge was a Judgment upon the Old World for their intolerable degeneration from their Duty to God: But I do not think that was the only Reason thereof; for the Infinite Power of God might have destroyed those Evil Men by a Pestilence as well as by a Flood, without detriment to the harmless Brutes or Birds: But as God Almighty is of Infinite Wisdom, so it is the high Prerogative of that Wisdom to have variety of Excellent Ends in the same Action. I do really think that this Universal Deluge was not only an act of his Vengeance upon Evil Men, but possibly an act of Goodness and Bounty to the very Constitution of this Inferior World, though the particulars thereof be hid from us. And if as some would have it, it should be coextended only to the places that were then inhabited, and so the Flood particular, yet most certain it would be, even in such a particular Flood, many great Spots of Ground would be necessarily drowned where never any Men were, or inhabited.

3. And it seems it is too hastily concluded, That in the Period of 1656, or as the *Septuagint*, whom he follows, 2256 Years between the Creation and the Flood, that only *Palestine*, *Syria* or *Mesopotamia* were inhabited: For considering the longevity of Mens Lives in that Period, a small skill in Arithmetical Calculation will render the Number of coexisting Inhabitants of the Earth more than six times as many as would have hapned in 5000 Years, when Mens Ages were abridged to that ordinary dimension which now they have: and the strait bounds of *Syria* and *Mesopotamia* would not have held one fortieth part of the Inhabitants,
all

all *Europe, Asia* and *Africa* were not more than sufficient for them: So that as the World grew full of Sin, so it grew full of Men and Beasts, and stood in need of a Deluge to make room for its future Inhabitants.

And this is as much as I shall say in this place, for the Vindication of the Possibility and Reasonableness of the Universality of that Deluge recorded by *Moses*.

And if any shall doubt of the Capacity of the Ark of *Noah* for the Reception of Brutes, Birds, and the Family of *Noah*, with the necessary Provisions of Livelihood for them; let him but consult *Mr. Poole's Synopsis*, and he will find that which may reasonably satisfy him touching it.

And now I shall briefly consider the Method and Means and Manner of the Peopling of *America*, and storing that vast Countrey with Men and Beasts and Birds, so far forth as we may reasonably conjecture.

And herein I must confess that I only make an Abstract or brief Collection of what hath been done to my hands by those that had better Opportunities and Abilities to do it; as namely, *Grotius, Laetius, Breerwood, Hornius, Josephus Acosta, Mr. John Webb, Martinus* and others, who have professedly written, *De origine gentium Americanarum*.

First therefore, I shall consider the Manner of Traduction of Men into *America*.

Secondly, The Manner of Traduction of Brutes into *America*.

Touching the Traduction of Mankind into *America*, I do suppose these things following:

1. That the Origination of the common Parents of the Humane Nature hapned in some part of *Asia*.
2. That though the Origination of the common Parents of Mankind were in *Asia*, yet some of their Descendents did come into *America*.
3. That such Migration into *America* by the Descendents from *Adam*, was not only possibly, but fairly probable, notwithstanding all the objected Difficulties.
4. That the Migrations of the Descendents of *Adam* and *Noah* into *America*, was successive, and interpolated.
5. That although we cannot certainly define the Time or Manner of all these Migrations, yet many of them were long since, or, as we may reasonably conjecture, some Thousands of Years since, but yet after the Universal Deluge.

The Means of Transmigration of the Children or Descendents of *Adam* and *Noah* from *Asia* into *America* must be either by Land or by Sea, or by both; and if by Sea, then it must be designed, and *ex proposito*, or casually.

I think it probable it may be all of these ways, but especially by Sea.

Touching the Transmigration by Land, it seems very difficult, because though it may be possible that there may be some junctures between the North Continent of *America* and some part of *Tartary, Russia, or Muscovy*, yet none are known, unless the Frozen Seas in those Parts might be a means to transport Men thither; which is difficult to suppose, those Parts being unpassable by reason of the great Snows that happen so far Northward: though some have thought that *Greenland* is one Continent with

with *America*, and that in its farthest North-east extent it is joyned to the Continent of *Asia* about *Japan* or *Cathay*; so that a Land-passage might be out of *Asia* into *Groenland*, and thence into *America*. But this is only conjectured, and not fully discovered to be so.

But however the Case now stands with the three known Parts of the World, in relation to its contiguity with the Continent of *America*; it is not impossible, but in that long tract of 4000 Years at least, which hath hapned since the Universal Deluge, there hath been great alterations in the situations of the Sea and Earth: possibly there might be anciently Necks of Land that maintained passage and communication by Land between the two Continents. Many Instances of this kind are remembered by *Pliny*, not only of the great *Atlantick* Island mentioned by the *Egyptian* Priest in *Plato's Timæus*, of a great bigness, almost contiguous to the Western parts of *Spain* and *Africa*, yet wholly swallowed up by that Ocean to which it hath given its Name of the *Atlantick* Ocean; which if true, might for ought we know afford a Passage from *Africa* to *America* by Land before that Submersion; but also many more Instances of the like Variations: thus he reports that *Sicily* was anciently divided from *Italy*, *Cyprus* from *Syria*, *Eubæa* from *Bæotia*. Vide *Plin. l. 2. cap. 88, 89, 90, 91.*

Strabo also in his first Book seems to referr the Straits or Apertures of the *Euxin* and *Mediterranean* Seas to the like separations made by the force of the Sea, and attributes those great Floods and Inundations to the elevation and subsiding of the *Moles terrestris*, in these words; *Restat ut causam adscribamus solo, sive quod mari subest, sive quod inundatur; potius tamen ei quod mari subest: hoc enim multo est mobilius, & quod ob humiditatem celerius mutari possit. Spiritus enim, hujusmodi omnium rerum causa, ibi est copiosior. Sed, sicuti dixi, causa horum efficiens accidentium est, quod eadem sola alias attolluntur, alias subsidunt:* and he resembles the ordinary Elevations and Depressions whereby the ordinary Fluxes and Reflexes are made, to the Expiration and Respiration of Animals; but those greater and extraordinary Elevations and Depressions of the Earth to the greater Accidents; *Nam diluvia, terramotus, eruptiones flatuum, & tumores subiti terre in mari latentis, mare quoque extollunt; subsidentisque in se eadem terra, faciunt ut mare dimittatur.* And it is no new or feigned Observation, That as the *Volcans* in the Land, as *Ætna* and *Vesuvius*, raise up those great Protuberances which seem Natural Mountains; so the like *Volcans* or Fiery Eruptions happen sometimes in the Land subjected to the Sea, whereby great quantities of Earth together with Fire are thrown up, and grow into Islands. *De quibus videbis Strabonem & Plinium in locis citatis.* And if we may give credit to the Conjectures of *Verstegan*, the Countries of *England* and *France* were formerly conjoyned, and after separated by the Irruption of the Sea between *Dover* and *Calais*. And therefore, although it may be that at this day there is no Land-passage from this Elder World unto that of *America*, yet within the tract of 4000 Years such there might have been, whereby both Men and Beasts; especially from about *Tartary* or *China* might pass; or between *Normay* or *Finland* and the Northern part of the *American* Continent.

But we need not go so far from home, nor resort to the Ages of ancient times for the evincing the great Changes that have been between the Sea

Sea and Lands, sometimes by tempestuous Winds, sometimes by Earthquakes, sometimes, and that most commonly, by the working of the Sea, by casting up Silt and Sand, and by exaggerations thereby wrought; elegantly described by *Ovid*, 15. *Metamorph.*

*Vidi ego quod fuerat quondam solidissima tellus
Esse fractum, vidi factas ex aquore terras;
Et procul à pelago concha jacuere marine,
Et vetus inventa est in montibus anchora summis.
Quòdque fuit campus, vallem decursus aquarum
Fecit, & eluvie mons est deductus in aquor,
Eque paludosa siccis humus aret arenis.*

The Instances of latter Discoveries which make evident this various state of the Globe of Earth and Water, thus described by the Poet, are among others those that follow.

1. Some Towns that were anciently Havens and Ports where Ships did ride, are now by exaggeration of Sand between those Towns and the Sea, converted into firm Land 2, 3, 4 Miles distant from the Sea; such was *St Omer* in *Flanders*, *Old Rumney* in *Kent*, *Rye* in *Suffolk*: vide *Mr. Dugdale* his *History of Draining*, pag. 173. and the Authors there cited by him.

2. Some whole Countries, as well as the *Egyptian Delta*, recovered to be dry Land, partly by the exaggeration of Sand by the Sea or the outfalls of great Rivers; thus the whole Country of *Holland* seems to be an Accretion partly by the Sea, partly by the River *Rhine*. *Dugdale* *ibid.* p. 12.

3. Some great Continents and Tracts of Ground were anciently firm Land, and full of great Woods that could not have less time than 500 Years continuance, and yet were afterwards reduced again into the Dominion of the Ocean, and after all that re-reduced into firm Land, leaving the infallible Signatures of these several Changes, though the precise times thereof exceed the Memory of any Men alive: Instances whereof are as follow.

In the great Level near *Thorny*, several Trees of Oak and Firr, some severed from their Roots, others joyned to their Roots which stand in firm Earth below the Moor, and in all probability have lain there hundreds of Years, till covered by the inundation of the fresh and salt Waters, and the Silt and Moorish Earth exaggerated upon them: and the like monuments of great Trees buried in great quantities in the Isle of *Axholm* about 3 Foot, and some 5 Foot under ground, whereof there are multitudes; some Oaks of 5 Yards in compass, Firr-Trees of 30 Foot long. *Vide Dugd. ubi supra*, pag. 141, 171.

Mr. Ray in his *Ingenious Observations* upon his Travels in the *Netherlands*, &c. pag. 6. gives us the like account of great quantities of subterraneous Woods, lying 10 and 20 Ells below the Superficies of the Ground, prostrate towards the East, which are supposed to be anciently thrown down by the irruption of the Sea and strong Western Winds, which yet now, and for all the time of the Memory of Man or History extant, are firm Land, namely, *Bruges* in *Flanders*.

But

But that one Instance is *instar omnium*, remembred by Mr. Dugdale, *ubi supra*, pag. 172, but of known and notorious truth, the Sceleton of a great Sea-fish above 20 Foot long found in the Downs or Uplands of *Cammington* in *Huntingdonshire*, very far distant from the Sea; which is an unquestionable Evidence that the Sea was sometime Master of that Tract of Ground.

4. Touching the *Conchæ marinæ* of several sorts, it is most unquestionable; I referr my self herein to the Relation of Mr. Ray, *ubi supra*, pag. 114. & *seqq.* wherein he gives us an account of these Petrified Shells found in great quantities within Continents at a vast distance from the Sea; and some Shells that are found in the Continent, which are strangers in the Ports of the Sea conterminous to those Continents.

There are two Opinions concerning the Origination of these Petrified Shells; 1. Of those that have thought (and with great probability) that these were left in those places by the Sea, either by the Universal Deluge, or that really the Sea did possess those places where it left these Relicks and Memorials of it self upon its recess to a more settled Channel. And certainly if this be so, we must needs suppose anciently another Face of the Sea and Earth than what now is; possibly many of these Vallies and lower grounds might be entirely Sea, and the Hills and Mountains, and other Prominences of the Earth where these Petrified Shells are often found, being the Shoars of that great Ocean in those elder times, those Shells were there cast up, as they are at this day upon the Shoars.

The second Opinion is of those that think that these *Conchæ* or Petrified Shells were no other than the *Lusus naturæ*, the Effects of the Plastick power of the Earth; 1. Because they are found at such great distances from the Sea: 2. Because they are many times of such a kind of Fabrick as are not to be found in those parts of the Sea that is conterminous to those Continents where they are found, some are found in the middle of *Germany*, 200 Miles distant from the Sea at the nearest; Scallop-shells are found in the Ditches of *Antwerp*, and yet they are rarely to be gotten on the Sea or Sea-shoar nearer than *Gallicia* in *Spain*: 3. Because these Shells are ordinarily filled with Stone suitable to the Stone of those places where they are found. These and the like Reasons, though not evidently concludent against the former Supposition, yet have induced many Learned Men to attribute these *Phænomena* to the Plastick power of the Earth.

For my own part, I have seen such apparent Evidences in and near the place where I live of things of this nature, that I am satisfied that many of them are but the Relicks of Fish-shells left by the Sea, and there in length of time actually Petrified; and the Instance of the great Fish-sceleton found at *Cammington* seems an undeniable Evidence thereof. And I remember in my youth, in the Lisne of a Rock at *Kingscote* in *Glocestershire*, I found at least a Bushel of Petrified Cockles actually distinct one from another, each near as big as my Fist: and at *Adderly*, mentioned by Mr. *Cambden*, about 40 or 50 Years since those Configurations of great Shells in Stones were frequently found, and for their curiosity, as many as could be found were taken up by several persons and carried away; since which time, for above 20 Years last past, there are none, or very few

few found; which nevertheless if they had been the Product of the Plastick power of the Earth, would have been Annually re-produced.

And yet I do think that all these Petrifications are not always necessarily the Monuments of the Sea possessing those places as its constant or usual Seat, but that many of those Shells arise *de novo*, not barely from the Plastick power of the Earth (as some Insects and Vegetables arise spontaneously) but from certain Seminal Ferments brought thither, which are as it were the *Seminium* of their production. And these Seminal Ferments were first in the Sea and Sea-Waters, and might by many means be brought into those new parts of firm Land; 1. By the Universal Deluge; 2. By the various mutable stations of the Land, and fluxes of the Sea; 3. By elevation of those Seminal Ferments from the Sea or some desiccated places thereof, by the heat of the Sun, and discharging them by Rain upon several parts of the dry Land, and where possibly those Seminal Ferments might be digested and ripened gradually into these Configurations. But touching these kinds of Seminal Ferments, and their Energy, more will be said hereafter.

By this digression I mean but thus much, namely, That we can by no means reasonably suppose the Face, Figure, Position and Disposition of the Sea and dry Land to be the same anciently as now, but there might then be Sea where there is now dry Land, and dry Land where there is now Sea; and that there might have been in former times Necks of Land, whereby communication between the parts of the Earth, and mutual passage and re-passage for Men and Animals might have been, which in long process of time within a Period of 4000 Years may have been since altered: That those parts of *Asia* and *America* which are now dis-joyned by the interlucency of the Sea, might have been formerly in some Age of the World contiguous to each other; and those Spots of Ground, namely, the *Philippine* Islands, and others that are now crumbled into small Islands, might anciently have been one entire Continent. And if in places that have been long inhabited, and observed by Men, these mutations have happened as are apparent to our very Senses, yet the precise Times, Manner and Circumstances thereof are wholly lost to us, as in divers parts of *Europe* is apparent: much more the like Changes may happen in those remote and vast Marine Tracts which have been long unknown and unobserved, and scarce possible to be observed by Mankind, as in the *Scythian*, *Atlantick*, *Pacifick*, and other Northern and Southern parts of the Seas.

Touching the Second Means, namely, the Passage by Sea; It seems very probable that the greatest and readiest means of the migration of Colonies or Plantations into the Western World from the Eastern, was by Sea, and the help of Navigation; whereof much might be casual, by Tempests or contrary Winds, but some and the more principal might be, *ex instituto & industria*.

Navigation, and the use of Ships is of that great Antiquity, that it is difficult to assign when it began to be in use.

It seems probable that it was not unknown to the Old World before the Flood, and yet not in that perfection that it was after, their Vessels being not reduced to that perfection as to endure a wide Sea, such as the Universal Deluge was, neither were they probably fitted with such Stores

as might be requisite for so long and unexpected a Navigation as the Flood lasted.

But the Ark of *Noah* was certainly a most exact piece of Architecture, and might give a Pattern or Instruction for Vessels of great burthen, and very probably since that time the skill of Making and Navigating of Ships was much ripened and improved.

If we consult the Heathenish Histories, we shall find Navigation very ancient among the *Grecians*, but especially among the *Phenicians*, *Tyrians*, and *Carthaginians*.

Polydore Virgil, *de Inventione Rerum*, l. 3. cap. 15. and before him, *Pliny* in his Natural History, lib. 5. cap. 57. gives us an Account of the several Inventors of the various forms and appendants of Shipping and Navigation, but yet the thing it self they carry up to higher Memorials; the Navigation of the *Argonauts* to *Colchis* for the Golden Fleece, being one of the famous *Epoche* of the *Grecian* Computation, happened in about the 1100 Year after the Flood according to the *Jewish* Account; and above 200 Years before them *Danaus* sailed out of *Egypt* into *Greece*, Shipping being there in use long before.

That although we find not express mention of the *Pyxis Nautica* or Magnet for many Years after mention of the Use of Navigation, yet the same Author tells us that the *Phenicians* steered their Course by the Observation of the Stars.

But we have a better and ancients Account of the use and frequency and antiquity of Navigation in the Sacred Scriptures: *Jacob* died about 600 Years after the Flood, mentions Ships and Havens for Shipping as things well known, and particularly *Zidon*, as a great Port of Shipping, where *Zebulon's* Lot was to be cast, *Gen.* 49. 13. *Balaam* also in the time of *Moses* mentions the Ships of *Chettim* or *Greece* as a known thing, *Numb.* 24. 24. again, in the Reign of *Solomon*, the *Tyrians* are taken notice of to be expert Sea-men; that *Solomon* had a Navy upon the Coast of the *Red Sea*, that from thence he with the *Tyrians* made long and great Voyages to *Ophir* and *Tarshish* (places, as it seems most probably, in the *East India*, not in *Africa* or *America*, as some have thought) and thence brought Gold and other Commodities once in three Years. *2 Chron.* 8. 18. 9. 21.

And how sedulous and industrious all Maritim Coasts were in advancing of Navigation, in multiplying of Shipping, in Merchandizing and Trading, in searching out and subduing Foreign Countries, when either they were afflicted at home by War, or grew over-populous, the Histories of all succeeding Ages of the *Grecians* and *Persians*, of the *Tyrians*, *Phenicians* and *Carthaginians*, of the *Romans* and *Egyptians*, of the *Seres* or *Chineses*; and in later times, of the *Venetians*, *Sicilians*, *Rhodians*, *Spanish*, *Dutch*, *French* and *English* give us a large Account.

And therefore as later Years, have given us of this Age witness, of the Transplantations to *America* from *Spain*, *France*, *Portugal*, *England*, *Scotland*, *Holland*, and some Ages before that have given Instances of Transplantations from *Norway* into *Groenland* and *Iceland*; so it seems not only possible, but very probable, that either by Casualty and Tempest, or by Intention and Design, either out of lucre of Gold, or for disburthening of the Countries lurcharged with multitude of Inhabitants, or by greatness of Mind, affecting Noble Undertakings, or by reason of
Hard-

Hardship, Oppression and Wars at home, or by some or all of these ways, several parts of this great Continent at several times have been planted with Inhabitants, which in process of time have multiplied into those many Nations, and have forgotten their Original, and the Manners, Religion or Customs of those People from whom they were derived in *Europe, Asia, or Africa*. And surely we have reason to believe that we of this Island are not *Aborigines*, but came hither by Migrations, Colonies, or Plantations from other parts of the World; yet were it not for the help of Historical Monuments, we should have forgotten who inhabited this Island six or seven hundred Years ago: yea, and notwithstanding all these Historical helps, we have no Authentick Tradition that can give us any tolerable Account before the time of *Julius Caesar*, much less of the first Plantation of this Island: for as to the Story of *Brute* and his Company, we have but little evidence of the truth of it, and if it were never so true, yet it doth not prove it uninhabited before.

Now those Countries in *Asia* or *Europe* that with greatest probability first peopled *America*, seem to be 1. The *British*; 2. The *Norwegians*; 3. The *Tartars* or *Scythians*; 4. The *Phenicians* and *Carthaginians*; 5. The *Chineses* or *Seri*. I do not at all mention the late Migrations of the *Spanish, French, Portugals, Dutch, English, or Scottish*, but those of a more ancient Edition.

1. Touching the *British* Migration, recorded by *Dr. Powel*, *sub anno 1170*, who tells us, That *Madoc* one of the Sons of *Owen Gwenth* went over twice into the Northern Coasts of *America*, and made there a *British* Plantation, who though in process of time much degenerated from their Nature, Language, Customs and Religion, yet retained some Monuments of all. This is at large prosecuted by *Laetius* in his second Observation, who gives us many Resemblances in some principal Words between the Language of them and the *Cambro-Britains*.

2. Touching the Migration of the *Norwegians*, *Hugo Grotius* hath made some considerable Observations, which though not altogether approved by *Laetius*, yet he willingly grants that *Iceland*, and some part of *Greenland* were visited and planted by *Ericus Ruffus*, *sub anno Christi 982*, and the Christian Religion there planted, and probably from thence Colonies were traduced into the Northern parts of *America*.

3. Touching the Migration of a considerable number of *Tartars* and *Scythians* into the North-east part of the Continent of *America*, over the *Fretum Anian*, *Laetius* seems to lay much stress upon it, partly in respect of the easiness and shortness of that Passage from *Nova Zembla* and the farthest North-east part of *Tartary* over that narrow Sea; and partly by reason of the congruity of the Barbarous Customs of the *Americans* and *Scythians*, and some other Indications of that kind.

4. Touching the Migration of the *Phenicians* and *Carthaginians*, especially into the South-east part of the Continent of *America*, as *Mexico* and *Brasil*, *Hornius* thinks it probable upon many accounts: 1. Upon the great skill and long practice of Navigation, and the multitude of Shipping of the *Phenicians* and *Carthaginians*. 2. Upon the Accommodation of the part of *Carthage* and other *African* Ports bordering upon the *Mediterranean* Sea, to make their Voyages Westward, and the great advantage of the constant Easterly Wind, that makes the Voyage to *Mexico*

Cc 2.

and

and *Brasil* more easie. 3. Upon some ancient Histories intimating the progress of the *Phenician* and *Carthaginian* Fleets into some Islands and Continents in or near the *Atlantick* Ocean. 4. From the Analogy of many Words, and Names of Places with the *Carthaginian* Language; all which, and much more to this purpose may be seen in the Book of *George Horne, de Originibus Americanis*. 5. And lastly, much of the Origination of the *Americans* seems to be attributable to the Migrations of the *Seri* or *Sinenses* from the Eastern parts of *China* and the *Philippine* Islands, from the Islands of *Borneo*, and the *Molucca's*, and *Japan*, through the *Mare Pacificum* into the Western part of the Continent of *America*; which though it be a large Ocean of above 2000 Leagues, between the *Philippine* Islands and the West of the *American* Continent, and the passage thither difficult in respect of constant Easterly Winds between the Tropicks; yet many Reasons seem to induce a likelihood of Plantations from thence, 1. In respect of the Antiquity of the Peopling of *China*, which if we believe *M^r Webb* was the first peopled after the Universal Deluge; that the Ark there first rested upon that tract of Mountains that environ a great part of *China*; that *Sem* the Son of *Noah* first settled there; that it is the most Ancient and Primitive Language; that by means of the Antiquity and Settledness of this Monarchy, having continued in its entireness ever since the Universal Deluge, it is most probable that the Western Continent was peopled from thence. 2. Because they were the greatest Masters of Shipping, and best skilled in Navigation of any part of the World; that the *Pixis Nautica* was there known and used long before the knowledge thereof in *Europe*. 3. The many Islands on the South-east and South part of *China*, as *Borneo*, *Java*, *Gilolo*, *Celebes* and others near the Equator are dis-joyned but by very narrow Seas, not much broader than those between *England* and *France*, from the Neck of Land called *Terra des Papos* or *Nova Guinea*; and *Nova Hollandia*, which is now discovered to be at least in some parts disjoyned from the more Southern Continent by a great Sea, but thought to have been anciently part of the Southern Continent, and possibly so it may continue in some parts thereof.

Upon these and the like probabilities it may seem reasonable to conclude, 1. That the *Americans* had their Original from the Inhabitants of *Europe*, *Asia* and *Africa*, that transmigrated into that Continent either intentionally, or casually, or both. 2. That those Migrations were not of any one single Nation or People, but from many or divers Nations. 3. That these Migrations were not altogether, or at one time, but successively in several Ages; some earlier, some later. 4. That therefore it is impossible to determin the Time or first *Epocha* of such Migrations, but only that they were all since the Universal Deluge, which is now above 4000 Years since: Some Migrations might be within two, three, or four hundred Years after the Flood, some later, according to various Accidents; but it is no way probable that the earliest Migration thither was less distant than 1000 Years from this time. 5. That if we should admit that the first Migration thither were above 2000 Years since, of an hundred Pairs they might easily propagate a number competent enough to people all that vast Continent. 6. That it seems that since the last of these ancient Migrations, suppose that of *Madoc* and his

Britons,

Britons, until our late Migrations by the *Spaniards, French, English, Dutch* and *Scotch*, there probably interceded an interval of at least four or five hundred Years, in all which interval the Commerce and Communication between *Europe* or *Asia*, and *America*, hath as it were slept, and been forgotten both by them and us. 7. That in that interval of 500 Years or thereabouts in all Parts, but in some Parts far greater, there must in all probability happen a great forgetfulness of their Original, a great degeneration from the Primitive Civility, Religion and Customs of those places from whence they were first derived; a ferine and necessitous kind of Life, a conversation with those that having been long there were fallen into a more barbarous habit of Life and Manners, would easily assimilate at least the next Generation to Barbarism and Ferineness. It is true, where a Colony comes and keeps it self in a Body, as the *Roman Colonies* anciently, and our Plantations in *Virginia* and *New England* do, and the new Accessions incorporate and joyn themselves unto that Body, Customs both Religious and Civil, and the Original Language are long kept entire: But where the Accessions are but thin and sparing, and scattered among the Natives of the Country where they come, and are driven to conform themselves unto their Customs for their very subsistence, safety and entertainment, it falls out that the very first Planters do soon degenerate in their Habits, Customs and Religion; as a little Wine poured into a great vessel of Water loseth it self: But if they escape a total Assimilation to the Country where they thus are mingled, yet the next Generation in such a mixture is quickly assimilated to the corrupt Manners and Customs of the People among whom they are thus planted: So that it is no wonder, if in such kind of small Accessions successively from one and the same or several Countries, the third Generation forget their Ancestors, and the Customs, Religion and Languages of those People from whom they were first derived, and assume various temperaments in their Language and Customs, according as the places of their Habitation and the Company among whom they live, obtain. And if any man consider but the strange contemperation and production of our *English* Language out of the combinations and mixtures of the *Danish, Saxon, British, French, Dutch*, and other Countries; he may easily perswade himself, that out of the Mixtures of People there may arise as great diversities of Language, Rites and Customs, as there may Temperaments of Qualities by the various combinations and mixtures of the prime Qualities, or varieties of Words by the various appositions of the 24 Letters in the Alphabet: and even these Customs and Languages subject to infinite successive alterations and variations, according to the variety of Foreign Mixtures, Commerce, Victories, Wars, Credit and Opinion of Factions or Parties.

And thus far touching the Peopling of *America* with Mankind; I shall subjoyn something touching the storing of it with Brutes and Birds.

It seems in the original Creation of things that Vegetables and Insects, especially those that by their nature may *sponte oriri*, or by equivocal Generation, had as large and universal production as the habitable parts of the Earth or dry Land; as Fishes, for the most part, had their
first

first created production as universal and *sparsum*, in the whole extent of the Seas or Waters.

But whether the primitive production of the more perfect Animals both Brutes and Birds, that have ever since had their production by univocal Generation, were diffusively created over the habitable or dry Ground as Vegetables were; or whether there were only certain *Capita specierum perfectarum utriusque sexus*, created in a certain determinate *districtus* near to the place of the first Origination of Mankind, *viz.* in or near the Garden of *Eden*; and that the whole Progeny of such Brutes and Birds were propagated after successively through the whole World from these *Capita specierum*, seems an Inquiry of more difficulty to determin.

Some Observations seem to favour the former Conjecture, especially considering that many *Species* of Brutes and Birds are as it were appropriate to their several Countries, as Elephants, Camels, Lions, and divers other Brutes; Parrots, Ostriches, and other Fowls which are not found in other Countries.

But especially the same Opinion is inferred from the Beasts and Birds which are found in *America*, which have not the like in the other parts of the World: *Acofta* in his 36th Chap. of his 4th Book saith, that besides the Beasts called *Guanaco's* and *Paco's*, there be a thousand different kinds of Birds and Beasts of Forest in *America* which have never been known neither in shape nor name in other parts of the World; whereof no mention is made, nor names given in *Greek* or *Latin*, or other Eastern Language of the World.

And in his 34th Chapter of that Book he tells us, That though the *Spaniards* in their first Plantation found certain Beasts, Birds, and other things in *America* common to those of *Europe*, *Asia* and *Africa*; yet some Beasts and other things they brought thither which were unknown there, and for which they had no Names but what the *Spaniards* brought along with them. So that one of the best Indications which they had to know those Beasts which were originally brought with the *Spaniards* out of *Europe* in their first Plantation, was, in that the *Indians* had no other Names for such but *Spanish* Names.

And again, since *America*, as is generally supposed, is divided on every side from *Asia*, *Africa* and *Europe* by considerable Seas, and no known passage by Land, so that all the possibility there could be for traduction of the Brutes into *America* from the known World, could only be by Shipping; Though this might be, and certainly was a method used for the traduction of useful Cattel from hence thither, yet it is not credible that Bears, Lions, Tigers, Wolves, and Foxes should have so much care used for their transportation.

And upon the same account they seem to infer, That the Beasts and Birds preserved by *Noah* in the Ark could only be such as were appropriated to *Asia*, but not those that were of the *American* kinds, for how should they come from thence to the Ark? Or if it be supposable that they could be brought thither, why did none of the kinds which are found commonly in *America* leave some of their Kind or Race here?

On the other side, it hath been the more received Opinion, That the *Capita specierum perfectarum* of perfect Terrestrial Animals and Birds were

were created near unto the place of *Adam's* Creation, and that from these, and these only the Race of perfect Animals, Birds, and Brutes were propagated and traduced over the face of the whole Earth; and that the *American* Brood was traduced from these, and from those Couples of these that were preserved by *Noah* in the Ark: And that upon these Instances, whereof some are of Divine authority, others are Physical.

1. All the Beasts and Fowls were brought to *Adam* to give them their Names, *Gen. 2. 19, 20.* which could not have been, if the several kinds of them in their first Creation had not been within some reasonable and approachable distance.

2. All the Beasts and Birds had their kinds preserved in the Ark, and the rest were drowned by the Universal Deluge. *Gen. 7. 23.*

3. Although the Continent of *America* was in the first *Spanish* Plantations thereof stored with wild Beasts, as Lions, Tigers, Bears, &c. yet those Islands that were remote from the Land, though large and fruitful, had not any of these Beasts then in them, as *Cuba*, *Hispaniola*, *Jamaica*, *Margarita*: this is verified by *Acosta*, upon a strict examination, *Lib. 1. Cap. 21. & alibi*, and the same hath been found true in other new discovered Islands by other Navigations: Whereby it appears that the Brutes were not *Aborigines*, for then they should have been found in those Islands as well as in the Continent, as well as Insects and Vegetables; and that therefore in the Continent it self, the first storing thereof was not from it self, but by some means of accession from other Parts, for otherwise they might have been found as well there as in the Continent.

The two great Obstacles are, 1. The difference of the Brutes and Birds of that Continent from those of *Asia*, *Europe* and *Africa*: 2. The difficulty of finding a commodious passage from *Asia*, *Africa*, or *Europe* for such Beasts and Birds from hence thither, admit they were all of the same kind. And touching both these I shall say something.

1. Touching the diversity of Brutes and Birds of this and the Western World; the difficulty from thence is but small, for there are divers Accidents even in the Eastern World, *Europe*, *Asia*, and *Africa*, that afford us Instances of that kind, though, excepting some Islands, it be one common Continent: I shall instance only in some Accidents of this kind: 1. This Variation may happen by Mixtures of several *Species* in Generation, which gives an anomalous Production, as we see ordinarily by the mixture of Pheasants and Hens, Chickens are produced partaking of both in colour and figure, which yet renders them different from both: And it is observed by many that the Cause of that great variety of Brutes in *Africa* is by reason of the meeting together of Brutes of several *Species* at Waters (which in those dry Countries are scarce) and the promiscuous couplings of Males and Females of several *Species*, whereby there arise a sort of Brutes that were not in the first Creation. This was long since observed by *Aristotle*, so that it grew a Proverb also, *Semper aliquid novi Africa affert. De generat. Animal. lib. 2. cap. 5.* and so continues to this day. 2. The Percolation, as I may call it, of Vegetables by Profemination will alter their Nature, Colour and Shape, as Tulips, or Carnations rising from Seed will differ in Colour from what those were that yielded those Seeds. 3. Culture will improve Wild Flowers in bigness and beauty; and want of Culture will sometimes make

make Vegetables degenerate. See for these Transmutations Sir *Francis Bacon*, in the 6th Century of his Natural History. I have often observed, that River-Fish, as Trouts and Flounders, and others, will alter their figure, some for the better and some for the worse, being put into Ponds. Again in Animals; the Learned Doctor *Harvey* in the end of his last Book *de Generatione Animalium*, delivers an Opinion which at the first view seems wonderful strange, viz. That the Conformation of the *Proles*, both in Men and Brutes, to their several specific Shapes and Configurations, is by a certain specific operative *Idea* in the Phantasie or Imagination of Animals, fixed and radicated in them, and conformable to their several *Species*; and that monstrous or anomalous Productions are by some disturbance or discomposure of that specific *Idea*, by some other inordinate *Idea*. And conformable hereunto seems the Opinion of *Marcus Marci*, in his learned Book *de Ideis formatricibus*. Whatever the truth of this Opinion be, it is not here properly examinable; yet it seems beyond question, that as to some external Signatures, as Colour, Shape, Figure, &c. the Phantasie or Imagination of the Females as well Animals as of Mankind, especially *in momento conceptus* and for some time after, hath a great Influence: Some there are that think that *Jacob's* change of the colour of Sheep and Goats by peeled Rods, *Gen.* 30. 37. was partly at least upon a Physical account; and he that reads *Fienus de Viribus Imaginationis*, and Sir *Francis Bacon* in the latter end of his Natural History, will find such Changes by the strength of Imagination as are very remarkable. It is probable, that in the great plenty of Birds and Fowls in uninhabited Woods of the Western World, even the several aspects of their Figure and Colour in their seasons of Copulation may make various Configurations and Colours in their Broods. 5. But that which is more to my purpose, and of greater evidence, is this; Variety of Soils and Climates makes admirable and almost specific Variations even of the same *Species* of Vegetables, Animals and Men: In Vegetables, a fruitful Soil or Climate improves in Beauty, Bigness and Virtue; a barren Soil or Climate impairs them: among Animals, the *Indian* Elephants are larger than the *African*; the *English* Mastiff degenerates in his courage and fierceness, at least in the first succession by generation, when brought into *France*; the *Barbary* Horse is of a finer Spirit and Make than the *Flanders* Horse, yet degenerates in a great measure in the first or second generation, when removed from *Barbary*. Nay let us look upon Men in several Climates, though in the same Continent, we shall see a strange variety among them in Colour, Figure, Stature, Complexion, Humor; and all arising from the difference of the Climate, though the Continent be but one, as to point of Access and mutual Intercourse and possibility of Intermigrations: The *Ethiopian* black, flat-nosed and crisp-haired; the *Moors* tawny; the *Spaniards* swarthy, little, haughty, deliberate; the *French* spritely, sudden; the Northern people large, fair-complexioned, strong, sinewy, courageous: nay we may see in more conterminous Climates, even in those of ours, great variety in the People thereof; the Up-lands in *England* yield strong, sinewy, hardy Men; the Marsh-lands, especially about *Somersetshire*, Men of large and high stature; the *welsh* that inhabit the Mountains, commonly sharp-visaged. And there is no less difference in the Humors and Dispositions of People inhabiting several Climates

Climates, than there is in their Statures and Complexions. And it is an evidence that this ariseth from the Climate, because long continuance in these various Climates assimilate those that are of a Foreign extraction to the Complexions and Constitutions of the Natives after the succession of a few Generations.

And upon this account there may be great variety in the Colour, Figure and Make of divers Birds and Animals in *America* from those in the Eastern World, and yet both have the same original extraction; for there is no less variety in the Brutes and Birds of *Africa* from those of *Europe* or *Asia*, and yet nothing impedes their mutual commigrations, being the same Continent, though differing Climates.

And therefore although *Acosta* and others tell us of Brutes and Birds in *America* that are not found in *Europe* or *Asia*, it doth not at all enervate the Sacred History; it is possible there may be the like in *Africa*, or some Parts of *Asia* which yet *Acosta* never travelled. 2. But if not, they might arise by an anomalous Mixture of *Species*. 3. Possibly they may be of the same *Species* with the Primitives, but received some accidental Variations in process of time; as the various kinds of Dogs here in *England*, Mastiffs, Spaniels, Hounds, Greyhounds, &c. might in their Primitives be of one *Species*; the like may be said of various kinds of Apes, Baboons, Monkeys; of Elks, Buffalo's, and Cows; the like of several sorts of Parrots, which primitively might be but one *Species*, and receive accidental Variations in process of generations, by some of the means above mentioned: and thus Crows, Daws, Rooks might be but a bastard kind of Raven; the *Royston* Crow and the *Cornish* Daw, though they have accidental differences from those among us, seem yet to be of the same kind with ours; and so possibly might the Sheep of *Peru*, called by *Acosta* *Pacos* and *Guanacos*, be primitively Sheep, but differenced by their long abode in successive generations in *Peru*; the *Auza's* and *Poulasses* mentioned by *Acosta*, lib. 4. cap. 37. may be but a *Species* of Ravens, though by the Climate accidentally altered in bigness and shape.

These things I mention, that it may appear, That even in the same Continent, wherein a mutual transition may be without difficulty, yet the very Climate may as it were appropriate some Brutes to certain Countries, which yet might without any great difficulty be at first Creation of them contained within nearer bounds, and might upon the occasion of the Common Deluge be drawn together into the Ark, and afterwards by their wandring farther, and inuring themselves to a certain Continent or part thereof, be accidentally changed, and as it were appropriate to it: And also to shew, That Animals even of the same Original, Extraction and *Species*, be diversified by accustomable residence in one Climate, from what they are in another. Therefore possibly as little Consequence may be drawn against the common Original of the *Capita specierum Animalium* in *Asia* and *America*, as may be drawn from the diversity of some kind of Animals inhabiting in divers parts of *Europe*, *Asia* or *Africa*, which notwithstanding is one common Continent. I do therefore conclude, That the variety of the Brutes and Birds in *America* from those in *Asia*, where the Ark was made, is no Argument against their Original from those that were preserved in the Ark: Because that it doth not yet appear,

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that

that those that are now known in this World do differ any more than accidentally from those in the Western World, *viz.* either by the Couplings and Mixtures of Animals of several *Species*, or by reason of the Variety of the Climate, or Temperament thereof; which Variations might be acquired by a dispersion of them as well into *America*, as other parts of *Europe*, *Africa* or *Asia*, after the Universal Deluge.

As to the Second, namely, The difficulty of the first Migration of Brutes and Birds from *Asia* where the *Capita specierum* were first created, and after in the Ark preserved; I shall first deliver my self from the lesser difficulties of the Objection, and afterwards consider the greater.

1. It seems but little difficulty touching the translation of Birds from hence thither: for although without the supposition of *Plato's Atlantis*, or some number of smaller Islands in a convenient distance in the *Atlantick Ocean*, it is hardly possible to suppose that any Fowls could maintain a flight from *Spain* or *Africa*, cross the *Atlantick Ocean* into *America*; yet there are other Seas between some parts of *Europe* and *Asia*, and the Northern parts of *America*, where Fowls by flight might pass from hence thither, as the *Fretum Anian*, and the Sea bordering upon *Norway* and *Finland*.

2. As to the Water-Fowls, the difficulty is less, for they can and do supply the weariness of a long flight by taking Water, and infinite numbers of them are found in Islands far remote from any Continent, and even in the main Ocean.

3. As to Domestick-Fowl, as Hens, Geese, Turkeys, &c. and tame Animals for use, delight, or food, as Horses, Dogs, Hogs, Sheep, Goats, Deer, Apes, Monkeys, Peacocks, Parrots, &c. of which *America* is furnished; there is as little difficulty but they might be transported by shipping either for use or commerce, especially by the *Africans*, who had store of them; and even Peacocks and Apes were an ancient part of commerce, 2 *Chron.* 9. 21. and *Acosta, lib. 4. cap. 33.* tells us that the Dogs and Cattel transported not much above 20 Years before his coming thither from *Spain*, were in that space so exceedingly multiplied in *S^t Domingo* and other Islands possessed by the *Spaniards* where there were none formerly, that they became wild, and filled all the Country, that they were forced to use what means they could for the destruction of the Dogs, and killed infinite numbers of Cows, merely for their Skins.

4. The only difficulty that seems to remain, is touching those ferine, noxious, and untamable Beasts, as Lions, Tigers, Wolves, Bears, and Foxes with which that Continent abounds: for it is not probable that these should be transported by shipping; no Men would probably be at that charge and hazard with such Beasts that would do more harm than good: And although possibly the frozen Northern Seas might be a Bridge for their passage, yet that seems unlikely in respect of the great Snows that accompany such Frosts, and the impossibility of a supply of food in so great and troublefom a Journey: And as to Swimming, though it hath been observed that Bears have swummed into Islands many Leagues from the Continent to prey upon Fowls, and to return again; and though the Seas between *Tartary* and *Cathay* and some parts of *America* be not so wide as the *Atlantick* or *Pacifick Ocean*, yet they are too large to afford a passage by Sea, especially for Tigers and Lions, which are not so apt to
take

take the Water. And it is not yet certainly discovered, though conjectured, that there is any Neck of Ground, or passage by Land from any part of *Europe* or *Asia* into any part of the Continent of *America*.

There remains therefore nothing that I can reasonably conjecture to accommodate the difficulty, but to suppose what I have formerly intimated; That although it should be granted that there is now no such Land-passage extant, yet within the compass of 4000 Years elapsed since the Flood there have been some such Junctures or Land-passages between the Northern parts of *Asia* or *Europe*, and some Northern parts of the Continent of *America*, or between the South-east parts of *China* or the *Philippine* Islands, and the Southern Continent (though lately there be discovered an interposition of Sea between the Island *del Fuogo* and that Southern Continent) whereby either from *Asia* to *Groenland* in the North, or from *China* to *Terra australis incognita* on the South a Land-passage might be from *Asia* to *America* for Men and Brutes, though for some Ages past either by the violence of the Water, or by Floods or Earthquakes, which hath made great alterations in the Globe of the Earth and Seas, that Bridge or Line of Communication be now broken and obliterated. And truly he that observes the infinite company of Islands lying between the Continent of *China* and *Nova Guinea*, almost contiguous to each other, hath probable reason to believe that these were all formerly one Continent joyning *China* and *Nova Guinea* together, though now by the irruption of the Sea crumbled into many small Islands.

C A P. VIII.

The Seventh Evidence of Fact proving the Origination of Man, namely, The Gradual Increase of Mankind.

I Come to the Seventh Evidence of Fact, which seems with much strength and clearness to evince the Origination of Mankind, and that within such a Period of Time as the Sacred Scriptures propound, namely, The Gradual Increase of Mankind upon the Earth.

And because I mean thoroughly to examin this Consideration, I shall propound to my Enquiry these ensuing Particulars.

1. Whether according to the ordinary course and procedure of Nature in the Generations of Mankind, there be not a gradual and considerable Increase of Mankind upon the face of the Earth, unless some collateral Emergency or Occurrence interrupt or correct that Increase.

2. What Correctives there may be supposed that may check and restrain that Increase of Mankind, that otherwise according to the ordinary course of Nature would have obtained in the World.

3. Whether those Correctives or collateral Occurrences which have been, or may be supposed to have been in the World, have so far prevailed, as totally to stop that Increase of Mankind, which upon a Natural account, without the intervention of such Correctives would have obtained.

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4. Whether

4. Whether notwithstanding all these Correctives of the Increase or Excesses of Generations, yet if still the numbers of Mankind have increased, it be not a sufficient Argument to satisfy a reasonable Man that Mankind had an Inception, and that within such a period or compass of Duration as is not of a vast or prodigious Excess.

I shall begin with the first of these, and I shall suppose, and I think clearly evidence, That without the intervention of some accidental or collateral Corrective, Mankind must needs increase upon the Earth; and that the Generations and Productions of Men and Woman in an ordinary, regular and constant course of Nature, do very much exceed the Decays of Mankind by Natural course of Mortality, allowing into the Account those common Decays of Mankind by ordinary, usual and common Diseases incident to Individuals.

The Laws, especially of the *Romans* and others, have determined the Legal Ages of Matrimonial Conjunction of a Man to be 14, of a Woman to be 12; Prudential Considerations have protracted it longer. *Plato* in his Third *De Legibus* allows and determines the Age of the Woman should be between 16 and 20, of the Man to be between 30 and 35: we will suppose the *medium* to be for the Man 26, for the Woman 20. *Aristotle* determines the extreme time for Generation in the Man to be 70, for the Woman 50; the *medium* to be 65 for the former, 45 for the latter: we will take a shorter *medium* for both, and suppose the extreme term for Procreation for Man to be 55, for the Woman to be 40 Years; upon this account the *terminus* or *periodus procreativa* to be 20 Years: And although within that Period there is a possibility of procreation of 20 Children, yet considering that all Pairs are not of that fertility, we will take the *medium* to be less than a third part, *viz.* 6.

And because upon a due Observation of the Sexes of Mankind, especially by such as have curiously observed the Registers and Calculations of Births and Burials, there is some, though not very considerable excess of Males above Females, *viz.* as 14 to 13, or in some places, as 16 to 15 (an evidence of the wise Providence of God, to bring the number of each Sex to so near a parity) yet allowing a redundancy to the Males, to supply those many Casualties whereunto Males are subject by Wars, Navigations, and other Occurrences that more exhaust the numbers of Men than Woman. Therefore we will allow to Productions of five Couples, about 16 Males and 14 Females; which though not exactly answering either of those proportions, yet comes near to them, namely, 16 Males to 14 Females.

And because partly through the weakness of Infancy, and those Diseases that happen to Youth either by reason of intemperance, indiscretion, want of care, and the ebullition and fermentation of Blood, more dye before 20 Years than between that age and 50, we will suppose, of those six Procreations only two attain to the state of future Nuptials and procreation of succeeding Generations; therefore we will allot only two of these six to attain to the state of Men and Women, and consequently in an ordinary course of Nature live to the common age of Mankind.

And although the common age of Mankind, when they are passed the danger of Childhood and Youth, is 70 Years, yet because I would have my

my Supposition as easie and general as may be, I shall allow 60 to be that ordinary Age, abating great Casualties and Epidemical Diseases.

And upon this account we may justly suppose these things; 1. That these two Children may be coexisting with their Parents for near 30 Years; for if the eldest be born at 27 Years of the age of the Father, and the other at 30 Years of his age, and live till the Father be 60 Years old, the youngest is 30 Years old at the extremity of his Father's age, which we suppose 60 Years: and 2. These two Children by Inter-marriage may have likewise two, three, or more Children by that time the Father attains 60 Years: So that in the compass of about 34 Years the number of two, namely the Father and Mother, is increased to the number of eight, namely, the Father and Mother, their two Children, and four Grand-children; so that in 34 Years they become increased in a quadruple proportion, and all coexisting: and although by that time we suppose the Father and Mother dye, yet in the like Period of thirty four by a Geometrical Proportion their Increase is multiplied proportionable to the Excess of their number above Two.

But if we shall suppose that the *Technogonia* began sooner, as at 17 or 18 Years, and continued longer, *viz.* until 65, and that the Ages of Mens Lives were protracted generally to 70 Years, the Increase would be very much greater.

And upon this account it is, that considering the long Lives of the Ancients shortly after the Flood, and the long continuance of their strength of Procreation, *Petavius* in his 9th Book *De doctrina Temporum*, cap. 14. and before him, *Temporarius* in his Chronology gives us a plain Demonstration, That within the compass of 215 Years after the Flood the Sons of *Noah* and their Descendents might without a Miracle increase to prodigious and incredible multitudes. The number of coexisting Individuals is by one of these Authors with very clear evidence computed to 1219133512, descended from one of the Sons of *Noah*. And therefore, that allowing the beginning of the *Syrian* Monarchy to have been about 153 Years after the Flood, it might shortly after the beginning of *Ninus* his Empire, which is supposed to have been about 215 Years after the Flood, have grown to that greatness, that might easily render credible the mighty Cities that were built by him, and the great Armies that he raised, and the Battles that he fought, and vast Slaughters that he made and suffered: But if we should follow the Account of the *Septuagint*, which gives us a far greater Period of Time from the Flood to *Abraham*, the advantage of the Increase would be signally greater; although the common Account of the *Jews* render the Increase easily credible, without the help of a Miracle.

And because that there can be no greater evidence of this Truth of the Increase of Mankind than Experience and Observation, neither can there be any Observation or Experience of greater certainty, than the strict and vigilant Observance of the Calculations and Registers of the Bills of Births and Deaths; and because I do not know any one thing rendered clearer to the view, than this Gradual Increase of Mankind, by the curious and strict Observations of a little Pamphlet, entitled *Observations upon the Bills of Mortality*, lately printed, I shall not decline that light or evidence that this little Book affords in this matter; wherein he plainly evinceth,

1. That

1. That the number of Males to Females is regularly as 14 to 13, or as 16 to 15. *Cap. 8.*

2. That supposing the number of breeding Couples to be 48000, in about the space of 7 Years, in a healthy time, or in 8 Years, if there be Plagues, the great City of *London*, which is not so healthy as the Countrey, will double, without the help of the access of Foreigners: and therefore *Adam* and *Eve* doubling themselves every 64 Years, would in the Period of 5610 Years, the supposed distance from the Creation of Man, produce a far greater number of Mankind than are now in the World. *Cap. 11.*

3. That in the Countrey, which is generally more healthy than *London*, upon a *medium* of Observation of 90 Years, there are five Births for four Burials, sometimes three to two, and seldom in any Year these Burials equalled or exceeded the Births; or if they did, yet the succeeding Years ballanced it to that proportion of 5 to 4; for in the space of 90 Years 1059 were Born in one Parish more than were Buried. *Cap. 12.*

4. That this Redundance did not much increase the place or Parish it self, because by transmigrations to *London*, to Foreign Plantations, and other places of Trade, they disburthened the proportion of their increase, and added to the greatness and amplitude of other places, especially *London*.

5. That considering the small excess of the number of Males above the number of Females, and considering the redundancy of the number of Males is only sufficient to make good that decay of Males above Females, by Wars and Navigation, and other Accidents more incident to Males than Females; there is very near a parity of Males and Females in the World, to keep it in a consonancy and congruity to the first institution of Matrimonial society between one Man and one Woman.

6. That consequently Polygamy doth not in the general conduce to the Increase of Mankind, because the natural or ordinary proportion between the number of each is equal. But in as much as by reason of the great Consumption of Males among the *Turks*, by divers Accidents, especially that of their great Wars between them and the *Persians*, *Tartars*, *Christians* and *Moors*; whereby there is, or at least in some Ages was, a great redundancy of the number of Woman above the number of Men: The use of Polygamy allowed among them, gives a greater increase of People than otherwise would be; because of the excess of the number of Women above the number of Men, by such Accidents.

These are some of those plain and evident Observations of the seemingly inconsiderable Pamphlets, which give a greater Demonstration of the Gradual Increase of Mankind upon the face of the Earth, than a hundred notional Arguments can either evince or confute, and therefore I think them worthy of being mentioned to this purpose.

Upon all which, and much more that might be said, it is evident, That according to the ordinary course of Nature, though those common and usual Accidents of common Sickneses, ordinary Casualties, and common Events are incident to Humane Nature; the number of Mankind doth and must necessarily increase in the World, and the Natural Supplies of Mankind are greater, and more numerous than the Decays thereof.

thereof. I now therefore come to the Second Consideration, namely, The Examination of the extraordinary or more universal Correctives of the Multiplication of Mankind, which because it will be large, I shall allow unto it a distinct Chapter.

C A P. IX.

Concerning those Correctives of the Excess of Mankind which may be thought to be sufficient to reduce it to a greater Equability.

I Come now to the Second premised Consideration and Inquiry, *viz.* Whether there may not be found some extraordinary Occurrences and Correctives, that may reduce that otherwise Natural and ordinary Increase of Mankind to an Equability: And I call them Extraordinary, not simply in respect of themselves, but in opposition to those daily and ordinary Casualties which happen to Humane Nature, and in respect of those great Distances and Periods, whether certain or casual, wherein they may be supposed to happen: And I shall improve this Objection against the Increase *de facto* of Mankind, with the greatest impartiality and advantage that may be.

It is certain that the Increase of Brutes, and other Animals which are perfect and univocally generated, is very great in the World: *Aristotle*, that inquisitive Searcher into Nature, in his 4th Book of the History of Animals hath given us an Account touching most Animals, of the length of their Lives, times of their Breeding, intervals of their Birth, wherein though possibly there may be variation in several Climates, yet his Account may give a near estimate, proportionable also to other places.

For Instance, the Cow breeds in the second Year, brings forth the tenth Month; lives 15 or 20 Years: the Mare breeds the third Year, brings forth in the twelfth Month; lives 25, 30, and sometimes 40 Years: the Sheep and Goat bear in the second Year, bring forth in the beginning of the sixth Month, sometimes two, ordinarily but one; lives 10, 12, or 13 Years: Sows breed in the second Year, bring forth after four Months; their Young numerous: Bitches breed in the latter end of the first or beginning of the second Year, bring forth after threescore Days, or in the ninth Week; their Young many, 5, 6, or sometimes 12; they live 10 or 12, sometimes 15 or 20 Years: Wolves breed and bring forth as Dogs, only their number fewer, sometimes 2, sometimes 3, sometimes 4: the Doe brings forth after eight Months complete, but one, and sometimes two; and live long: the Fox breeds 4, the Cat 5 or 6; and lives 6 Years, many times more: the speedy and numerous increase of Mice is prodigious; *Aristotle* mentions 120 produced of one Female in a very little time; *Pliny* in his 11th Book, Cap. 63. hath in effect transcribed *Aristotle* herein.

By this it appears, That the Natural Increase of these Animals is much greater than of Men, yet their numbers have not arrived to that great excess,

excess, because those that are for food have their reduction by their application for that purpose; those that are domestical, and not for food, as Cats and Dogs, are kept within compass by drowning or destroying their Young; and those that are noxious, as Wolves and Foxes, are reduced by that common destruction that Men pursue them with.

Touching Birds, their Increase seems to be much greater than of Men or Brutes, but they have those reductions that bring them to a fair equability, unless it be in those Islands and Rocks in the Sea unaccessible by Men, where Sea-Fowls breed. First, their number is reduced by Man for food: 2. For destruction, as in Birds that are noxious: 3. By the natural shortness of the Lives of many that are yet numerous breeders: 4. By the mutual destruction of the weaker by Birds of prey, whereof more particularly hereafter: 5. By the Winter cold, which starves very many, either for want of heat or food; and of this more hereafter.

Fishes are infinitely more numerous or increasing than Beasts or Birds, as appears by the numerous Spawn of any one Fish, though ordinarily they breed but once a Year; and if all these should come to maturity, even the Ocean it self would have been long since over-stored with Fish. Now the Correctives and Reductions of these are very many. 1. *Aristotle* observes in his 6th de *Historia Animalium*, cap. 13. Those Eggs that are not sprinkled, *aspergine seminis genitalis maris*, prove unfruitful; a great part are devoured by the Male, and much more by other Fish: some of their Eggs are buried in the slime, and corrupted. 2. Many are taken by Men, and employed for food. 3. As among Birds and Beasts they are Beasts and Birds of prey, which are less numerous than others, so especially among Fish: And though the Wisdom of Providence hath given certain Expedients to Animals, especially Fishes of the weaker nature, to escape the voracious; as swiftness to some, smallness to others, whereby they escape to Shallows and Shoars unaccessible to the greater: and to those that are not able to move, or at least not to move swiftly, the protection of Shells, as Oysters, Escalops, Crabs, Lobsters and other Shell-fish; yet a very great number are devoured by the voracious kind. I do remember, that a Friend of mine having stored a very great Pond of 3 or 4 Acres of ground with Carps, Tench, and divers other Pond-fish, of a very great number, and only put in two very little small Pikes; at 7 Years end, upon the draught of his Pond, not one Fish was left; but the two Pikes grown to an excessive bigness, and all the rest, together with their millions of Fry devoured by those pair of Tyrants. 4. Birds also of prey, as Storks, Herons, Cormorants, and other Fowl of that kind destroy many both in the Sea, Rivers, Ponds and Lakes. 5. Extreme Frost, especially in Ponds and Lakes, make a great destruction of Fish, partly by freezing them, partly by the exclusion of the ambient Air, which insinuates it self into the Water, and is necessary for the preservation of the Lives of those watry Inhabitants. 6. By great Heats and Droughts, not only drying up Lakes, Ponds, and Rivers, but also tainting the Water with excessive heat; and though these two do not so much concern Sea-fish, who have more scope and room, yet they have a great influx upon Rivers, Ponds, and Lakes.

Again, to say something of Insects, whether airy, terrestrial, or watry; they

they seem to be more numerous than the common sorts of univocal Animals, who have an univocal production. For first, their first production is strangely numerous, out of Putrefaction and much Moisture, influenced by Heat. Hence *Diodorus Siculus* in his first Book tells us of the numerous productions of Mice after every Inundation of *Nilus*, sensibly and visibly growing out of the slime; *Juxta Thebaidem, cum Nili cessavit inundatio, calefaciente Sole limum ab aqua relictum, multis in locis ex terræ hiatu multitudo Murium oritur*: which *Aristotle* also observes, as frequent in other places, *lib. 5. de Histor. Animal. cap. 37. Locis enim compluribus tam inaudito modo oriri solent, ut parum ex universo frumento relinquatur*. And in my remembrance, after the drayning of the great Level in *Northamptonshire*, and other Shires, such an innumerable company of Mice did upon a sudden in the Summer time arise, as it were immediately out of the slimy Earth warmed by the Sun, that they were constrained to cut their Banks to drown the Lands, and so cure one Inundation with another.

The like numerous production of Frogs happens in some Years; which *Aristotle* in the first Section of his Problems, and *Sir Francis Bacon* out of him makes a Prognostick of a sickly Year; because such Productions are the effect of a great degree of Putrefaction in the Elementary Bodies. And we read, that in *Norway* there was not long since such innumerable company of Field-Rats of a new Make produced, somewhat larger than Rats, that they threatned a general Consumption of all their Fruits; but by some extreme hard weather they were destroyed; yet so as the multitude of their Carcases produced a noysom Contagion in the Countrey. And the like numerous production every Year gives us, though some Years more than others, of divers other kind of Insects, as Flies, Locusts, Worms, Caterpillars, and divers others, which in some Countries so abound, that they cover the face of the ground, especially in the parts of *Africa*: *quod vide*, in the 9th Book of *Leo* his History of *Africa*, and those additions out of *Paulus Orosius* and *Alvarez* in confirmation thereof.

2. As this original spontaneous production is very numerous, so the multiplication of these Insects by their Eggs or Seeds is infinitely more; their Lives are short, some dye within the compass of one Summer, as the Silk-worm: yet a curious Observer of that Insect, namely *Malpighius*, hath given us an account of the number of Eggs of one Silk-worm in one Year to be above 500; though all possibly prove not fruitful, yet preserved carefully from the injury of the Winter, many of them come to perfection the next Spring: And it is apparent that the *Eruca*, Caterpillars and Worms we see upon Hedges and Leaves, multiply their Seeds to a very great excess; and this is much more visible in the Spawn and production of Frogs, and also in the multiplication of Mice, the blowings of Flies, and almost all kind of Insects; though their Lives are shorter, yet their productions are more numerous and frequent in the short Period of their Lives, than the perfect Animals. So that if there should not be some Corrective of the excesses of their Productions, the whole Atmosphere, Earth and Waters would be crouded with their numbers: The contrary whereof is nevertheless apparent, for the multitudes of one Summer are for the most part exhausted, and invisible by the next Spring.

The Correctives therefore of the numerous Excess of Insects seem to

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be principally these: 1. The Industry of Mankind, in destruction of noxious Insects. 2. The Wise Providence hath placed a certain Antipathy between some Animals, and many Insects, whereby they delight in their destruction, though they use them not as food: As, the Peacock destroys Snakes and Adders; the Weasel, Mice and Rats; Spiders, Flies; and some sorts of Flies destroy Spiders. 3. The common sort of Insects are the ordinary food of divers Animals, as well Insects as others: The Spider and all sorts of small Birds, especially the Swallow, feed upon Flies; the Mole feeds upon Worms; Ducks and divers Water-fowl upon Frogs; the Cat and Owl upon Mice: and thus Insects become the prey of other Animals, which correct their excess. 4. As the hot and moist temperament of the Air and Earth produce and increase Insects, so that temperament of the Air, Earth, and Waters that seems most opposite to Putrefaction, either destroys many of the Individuals, or at least renders their numerous Eggs and Seeds unfruitful, and resists as well the original Production of them from Putrefaction, or abates the Prolifick power of their Eggs or Seeds. 5. Great Rains, and Showers, and Inundation of Waters drowns oftentimes many sorts of Insects, and renders their Seeds and Eggs unprolifick, or destroys them. 6. But especially the Winter Cold, Frost and Snow do kill many Insects, and their Eggs and Seeds, and renders them unfruitful. The Cold and Winter season is a great Enemy not only to Insects, but to many sorts of Birds, Beasts and Fishes: and therefore *Aristotle* most truly observes in his 8th *Hist. Animalium*, cap. 13, 14, 15, 16, &c. that to avoid the severity of the approaching Cold, many of them retire into the closest and warmest Caverns they can get; wherein some lye for many Months without the benefit of Food, and if they escape the severity of the Cold, they as it were revive the next Spring. For instance, Serpents hide themselves 4 Months, Swallows betake themselves all the Winter to low Vallies and Caverns, Tortoises close up themselves in Holes and Earth all the Winter, as is obvious to daily Experiences; *Et Insecta penè omnia conduntur, præter ea quæ vitam in domiciliis cum hominibus agunt, quæque prius intereunt quam omnino tempus excedunt.* And therefore Bees keep themselves close in their Hives, *ab ortu Vergiliarum*, till the next Spring. And yet, though Nature hath given Insects this Sagacity to avoid the Winter Cold, yet they are not always successful in it, but the severity of the Winter finds them out, and destroys them: But as for their Seeds or Eggs, which in the precedent Summer are laid up and down upon Leaves, and in other places, they are for the most part destroyed by the Winter; except such as casually by the Wind or otherwise are dispersed, and lodged in safer Receptacles, and thereby survive the inclemency of the Winter, and yield a new Production or Increase the next Spring.

And thus we have seen the Methods and Correctives, that by the Divine disposition of these small and inconsiderable pieces of Nature are used; whereby at once there is a preservation of the Kind of those little Animals, and yet a prevention of that Excess and Redundance which would happen by their numerous Increase, to the detriment and surcharge of the inferior World.

In all this Consideration of the Reduction of Excesses and Increase of Animals and Insects, two things are observable in a special manner, namely;

1. That

1. That in the state of Animals and Insects, we may see something that is analagous to the state of the Elementary and mixed Inanimate Bodies; that there are some more active and vigorous Qualities, that seem continually to exercise a Sovereignty and Tyranny over the more passive and weak Natures; and prey upon them: Thus Heat, and also in some degree Cold, are always persecuting and foyning at the weaker and more unactive parts of Nature: So among Brutes, Birds, Fishes, Insects there is a continual invading and prevalence of the more powerful, active and lively, over the more weak, flegmatick, and unactive Creatures; the Bear, Lion, Wolf, Dog, Fox, &c. pursue the Sheep, Oxen, Hare, Coney, &c. and prey upon them: the like is evident among Birds and Fishes, and generally Insects, being the weaker and more inconsiderable parts of Nature.

2. That the vicissitudes of Generation and Corruption are by a kind of standing Law in Nature fixed in things, and the Notions and Qualities of Natural things are so ordered, to keep always that great Wheel in circulation; and therein the Accesses and Recesses of the Sun, the Influxes of the Heat thereof and of the other Heavenly Bodies, and the mutual and restless Agitation of those two great Engins in Nature, Heat and Cold, are the great Instruments of keeping on foot the Rotation and Circle of Generations and Corruptions, especially of Animals and Vegetables of all sorts.

3. That yet these Motions of Generations and Corruptions, and of the conducibles thereunto, are so wisely and admirably ordered and tempered, and so continually managed and ordered by the wise Providence of the Rector of all things, that things are kept in a certain due stay and equability: and though the Motions of Generations and Corruptions, and the Instruments and Engins thereof are in a continual course, neither the excess of Generations doth oppress and over-charge the World, nor the defect thereof, or prevalence of Corruptions doth put a Period to the *Species* of things, nor work a total Dissolution in Nature.

And upon this seemingly impertinent Diverſion touching the Reductions and Correctives of these inferior Animals, there may seem to be collected reasonably an analogical Inference of the like means of the Correctives of the Generations of Mankind; and that although in an ordinary course of Humane Productions the Increase surmounts the Decay, yet there may be reasonably supposed such Periodical Corrections as might fairly keep the state of Mankind in a mediocrity and equability, although it should be supposed the Generations of Mankind had been Eternal.

And although these Correctives may not happen every Day, or every Year in the ordinary course of things, and therefore may be called extraordinary, because they are less ordinary than the common Casualties of Mankind, as Sickneſs or Accident that happens to this or that individual Person promiscuously; yet they are in truth no more extraordinary, than a cold Winter is extraordinary; which although it is not every Day, nor doth it happen every Year poſſibly in an equal Degree, yet it is no extraordinary thing in Nature, if it happens once in 5, or 10, or 20 Years.

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Having therefore considered these Correctives in the inferior Animal Nature, I shall now search out what may be those Correctives, that may be applicable to the Reductions of the Generations of Mankind to an Equability, or at least to keep it within such bounds as may keep it from surcharging the World; whereby if in the Period of 2, or 3, or 4000 Years it may grow too luxuriant, yet it may in probability be so far abated, as may allow it an Increase of the like number of Years to attain its former proportion. So that by these Prunings there may be a consistency of the Numbers of Mankind, with an eternal succession of Individuals.

Those Reductions that may be supposed effectual for these Ends, and such as the course of Mankind seem to have had great Experiences of, are, 1. Plagues and Epidemical Diseases: 2. Famines: 3. Wars and Inter-necions: 4. Floods and Inundations: 5. Conflagrations.

1. Concerning Plagues and Epidemical Diseases, the Histories of all times give us Accounts of the great Devastations that they have made in many places: and sometimes it hath been, it is true, only in some particular Regions or Cities, but at other times it hath been more universal; and although at the same time, in some Seasons, it hath not universally prevailed, yet it hath gradually and successively moved from place to place.

The ancient Plagues of former Ages in Foreign Parts have been very terrible, and cut off multitudes of People: See a Collection of some of them by Dr Hakewill, lib. 2. sect. 3. as, namely, That Plague in *Ethiopia*, and also in most parts of the *Roman* Empire, in the Year of Christ 250; which continued 15 Years, and left not so many People in *Alexandria* as there were formerly aged Men: that under *Justinian*, in *Constantinople*, and the parts adjacent; wherein there dyed 10000 in a Day: that in *Africa*, whereby according to *Procopius*, in the Country of *Numidia* there dyed 800000 Persons: that in *Greece*, under *Michael Duca*; which so prevailed, that the living were not sufficient to bury the dead: and that in *Italy*, in the Year 1359, whereby there were not left ten of a thousand; this possibly may be the same mentioned by *Walsingham*, but referred to the Year of Christ 1349; that prevailed over the World, beginning in the Northern and Southern parts, that the living were not able to bury the dead: *Existimabatur à pluribus, quod vix decima pars hominum fuisset relicta ad vitam*: and presently after followed a great Murrain of Cattel; so that he concludes, *Tanta ex his malis miseria secuta est, quod mundus ad pristinum statum redeundi nunquam postea habuit facultatem. Vide Lipsium de Constantia, lib. 2. cap. 23.*

And if we look upon our own Country, besides those great Plagues that have been in a manner universal, there have been very many such in *England*; sometimes more general, sometimes more circumscribed to particular Cities or places: As that Plague in the North parts of *England*, mentioned by *Walsingham* in the beginning of R. 2. that in a manner depopulated those Parts: that mentioned by the same Author, Anno 7 H. 4. whereby there dyed in one Year 30000 in *London* (which was considerable then, considering the narrowness of the City in those days, comparatively to what it now is) besides the great desolation it made in the Country.

If

If we come to latter Years, both in *England* and in Foreign Parts, the Observator of the Bills of Mortality before mentioned hath given us the best Account of the Number that late Plagues have swept away; for Instance,

In <i>London</i> , Anno Dom. 1592, of the Plague—	11503
Anno Dom. 1593 —————	10662
Anno Dom. 1603 —————	30562
Anno Dom. 1625 —————	35400
Anno Dom. 1636 —————	10400
Anno Dom. 1665 —————	68596

We have also Accounts of the great Devastations made by the Plague in late Years in Foreign Parts:

In <i>Amsterdam</i> , between 1622 and 1664 —————	84564
And in the Year 1664 —————	24148
Anno 1637 at <i>Prague</i> —————	30000
Anno 1652 at <i>Cracovia</i> —————	37000
Anno 1656 at <i>Naples</i> —————	30000
Anno 1657 at <i>Genoa</i> —————	70000
Anno 1619 at <i>Grand Cairo</i> in 10 Weeks —————	73500

And *Leo* in his History of *Africa*, tells us, that the Pestilence is so hot sometimes in that City, that there dye 12000 almost every Day; and *Pliny* in 7. Nat. Hist. cap. 50. saith that the Southern Plagues happen most in the Winter, and move Westward, according to the course of the Sun; which some have observed also in the Northern, that it sometimes held a gradual Motion, and for the most part Westward; as in 1652 at *Cracovia*; 1653 at *Dantzick*; 1654 at *Copenhagen*; 1655 at *Amsterdam*, and other Towns in the *Netherlands*; 1656 at *Naples* and *Rome*; 1657 at *Genoa*. And I have somewhere read, that in *Alexandria* in *Egypt* the Plague is Anniversary, beginning with the Rising of *Nilus*, which is about the 17th of *June*, and continueth rising 40 Days, sometimes 12, sometimes 15 Cubits, and in its greatest excess to 18 Cubits, and as many Days decreaseth; so that the Plague lasteth 80 Days, and then perfectly ceaseth with the full Ebb of *Nilus*.

So that upon the account of Plagues, and extraordinary Epidemical Diseases, there seems to be a great Corrective of the Redundance and Increase of Mankind.

2. Let us a little take notice of Famines, which though they have not been of late times much observed, partly because of the great Industry of Mankind, improving and increasing the Fruits of the Earth; partly by those Supplies that have come by Sea to those Countries that are in want; but principally by the goodness of God, in leading the Children of Men seasonable Weather, and fruitful Seasons, and prosperous Influences: yet in former times they have been very grievous, and destroyed multitudes of People.

Walsingham in the Life of E. 2. tells us of so severe a Famine in *England*, that they were enforced to eat Dogs and Horses; yea and stole Children and eat them; viz. 9 E. 2. And divers other Instances our own Histories give us of other great Famines in this and other Countries.

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Ordinarily a Famine and a Plague anciently went together, or the former followed upon the heels of the Plague, by reason of some of these means: 1. Commonly the same distemperature of the Air that occasioned the Plague, occasioned also the infertility or noxiousness of the Soil, whereby the Fruits of the Earth became either very small, or very unwholesome: As it happened in that Famine under E. 2. above mentioned, in so much that the Historian tells us, that *Medicinales herbae, quae levamen languidis conferre solebant, per Veris intemperiem & Elementorum inaequalitatem, contra naturam effecta degeneres, virus pro virtute reddebant.* 2. Commonly the Plague among Men was accompanied or followed with a Rot or Murrain among Cattel, whereby the flesh of Beasts was wanting, or noxious to those that used it. 3. Commonly by a great and general Mortality or Plague the Husbandmen and Labourers were so diminished, that there wanted People to gather in the Harvest, or Till the Ground, whereby there necessarily ensued a Famine: And oftentimes by a kind of necessity Famines were durable, the Stock being exhausted one Year, left little for the supply of Tillage, Husbandry, or Increase for the next.

And as Famine was anciently the Concomitant or Consequent of Plague, so both Plague and Famine, especially the latter, were the usual Consequents of War, which bring with it Devastation and Destruction, and a general intermission of that Husbandry and Care that should supply it.

The terrible Effects of Famine, and the great Consumption of Mankind that is occasioned, was principally 1. Of the Poor, who upon the bare increase of the Price of Victuals, and wanting wherewith to buy, must needs occasion their starving, or a tumultuous gaining it by force, where they could not get it; which was but a short and temporary Relief, and made more want after, by the spoil and disorder occasioned thereby. 2. Of numerous Armies, who being brought into places of want or scarcity without due Conduct or Provision, are oftentimes destroyed in a Week, especially in close and long Sieges, as it happened in *Samaria* when besieged by the *Assyrians*, and *Jerusalem* when besieged by the *Romans*, wherein more dyed by the Famine than by the Sword.

So that Famines as well as Plagues seem to give a great Reduction to the Numbers of Mankind.

3. A few words may serve concerning Wars, which are so frequent, and bring so great a Desolation upon Mankind, that it seems to equal that allay of the Excesses of Brutes, Fishes, Birds, and Insects, by the other Beasts, Birds, or Fishes of prey; and the rather, because many if not all the considerable Parts of the World are some Years at it, though it may be some Ages free from Pestilences and Famines (other than such as are consequences of War) but in no Age nor Year of the World hath it been quiet from Wars, and those calamitous consequences thereof, at least in some considerable parts of the World.

It would be endless, and indeed Morally impossible, to give an Account of the Numbers of People and Armies that have been cut off by Wars, especially on the side of the Conquered. Some few Instances may give some kind of Estimate herein.

Diodorus Siculus in his third Book tells us, that *Ninus* in his Preparation against

against the *Bactrians* gathered an Army of 1700000 Foot-men, 200000 Horse-men, 10600 Chariots: that *Zoroastres* his Army consisted of 400000, who in the first Conflict prevailed, and killed 40000, but were afterwards wholly destroyed; so that probably in that War there fell no less than 400000 Men: *Darius Hystaspis* in the Battel of *Marathon*, whither he came with an Army of 600000, lost in one Battel 200000: his Successor *Xerxes* went into *Greece* with an Army, according to some, consisting in the whole number of it and its Appendices, of five Millions, those that spake most sparingly, of above one Million; all which within the space of five Years were in effect wholly lost. *Vide Lips. de Constant. lib. 2. cap. 21, 22, 24.* *Alexander* destroyed the Army of *Darius*, consisting of a Million of Men, the greatest part whereof fell by the Sword: and *Pliny* in his 7th Book of his Natural History, *Cap. 15.* tells us, that *Julius Caesar*, and his Armies in the time of his Command, killed 1192000 persons, besides those that he slew in the Civil Wars: And if by the Estimate of that one Man, we might make a Calculation of those that were slain by the *Assyrian*, *Babylonian*, *Persian*, and *Grecian* Monarchies, by *Cyrus*, *Darius*, *Astyages*, *Alexander* and his succeeding Captains; by *Marius*, *Sylla*, *Pompey*, *Vespasian*, and the succeeding *Roman* Emperors; by *Tamberlane* and the *Scythians*; by the *Goths*, *Vandals*, *Turks*, *Tartars*, *Muscovites*, *Persians*, *Moors*, and *Christians*; by the Wars in this little Spot of *England*; by the late Wars in *France*, *Spain*, *Germany*; by the *Spaniards* in the *west Indies*, the numbers of Internecions and Slaughters would exceed all Arithmetical Calculation.

So that it should seem, there needed no other Reductive of the Numbers of Men to an Equability, than the Wars that have happened in the World.

And although Wars are in a great measure accidental, or at least proceed in a great measure from the Wills of Men, their Pride, Ambition, impatience of Injuries, affectation of Dominion, mutual Jealousies and Fears of the Potency of each other, and oftentimes accidental Emergencies and Occurrences; yet it seems, that abstracting from all these Occasions, Wars seem to be in a manner a Natural Consequence of the over-plenitude and redundancy of the Number of Men in the World: And so by a kind of congruity and consequence, morally necessary when the World grows too full of Inhabitants, that there is not room one by another; or that the common Supplies which the World should afford to Mankind begin to be too few, too strait, or too narrow for the Numbers of Men; that natural propension of Self-love, and natural principle of Self-preservation will necessarily break out into Wars and Internecions, to make room for those that find themselves straitned or inconvenienced.

So that as when the Channel of a River is over-charged with Water more than it can deliver, it necessarily breaks over the Banks to make it self room; or when the very Brutes or Animals find themselves oppressed and straitned in their provisions and supplies, by the redundance of their numbers, one necessarily preys upon another, or destroys another to preserve it self: So Wars among Mankind are a kind of necessary Consequence of Redundance of Mankind, and will by a kind of Natural necessity make it self room, and give it self ease by the destruction of others,

others, if it can get power and opportunity to do it : And consequently there seems to be no fear of the surcharge of the World with Mankind, because there is this natural and necessary Remedy at hand ; the very Redundance it self of Mankind seeming by a natural consecution to yield and subminister this Remedy, for its Reduction and Equation. As in a redundance of Humors in the Body, the most lively and active do naturally thrust out those that are weaker or noxious, to make room for themselves : or as Bees swarm to get new habitations, when they are so increased that their Hives will not hold them.

4. Concerning the Fourth, and also, inclusively the Fifth Corrective of the Excess of Mankind, namely, Inundations and Conflagrations.

Those that have been Observers of things in Nature and Histories of former times, have given us Instances of two kinds of Mutations in this Terrestrial Globe of Earth and Waters: some that are more ordinary, and of less moment, and of such various have been in the World ; such are those mentioned especially by *Pliny* in his Natural History, *lib. 2. cap. 85. & seqq.* some places severed from the Continent by the interruption of the Sea ; thus he tells us that *Sicily* was divided from *Italy*, *Cyprus* from *Syria*, *Eubæa* from *Bæotia*, *Atlantis* and *Macris* from *Eubæa*, *Bosticum* from *Bythinia* ; and some have thought, though perhaps upon very small evidence, that *England* and *France* were sometimes one Continent, and divided by the interruption of the Sea ; and *Spain* from *Africa*. Again, some Cities and Countries swallowed up by the Sea ; as *Pirrha* and *Antissa*, *Elis* and *Buta*, half the City of *Tyndaris* in *Sicily*, and 30 Miles of the Island *Cea*, with a great destruction of Men and Cattel : some Countries wholly swallowed up and drowned in the Sea ; as *Acarnania*, *Achaia*, part of *Europe* and *Asia* in *Propontis* : but above all, that great Island of *Atlantis*, supposed by *Plato* in his *Timæus* to be greater than *Lybia* and *Asia*, swallowed up in the *Atlantick* Ocean, to which it gives its denomination : but *Plato* is oftentimes so Poetical, that we can hardly tell where he means in earnest.

But on the other side, many times the Sea by a certain recompence makes new room for the Inhabitants of the World, sometimes by producing notable Islands ; thus the same *Pliny* tells us that *Delos*, *Rhodes*, *Anaphe*, *Nea*, *Thera*, and *Teresia*, *Hiera*, *Automate*, *Thia* were produced.

Again, the Sea hath deserted vast Tracts of Ground in divers places, and left them dry Land, as is related by *Aristotle* in the second of his *Meteors*, *Cap. 14.* and by *Pliny* in a great measure, out of him and *Herodotus*. Thus considerable quantities of Land were left by the Sea at *Ephesus*, at *Ambracia* and other Parts ; and that a very great part of *Egypt*, namely, that called *Delta* is but the accretion of *Nilus*, and was sometime covered with Water : and according to the conjecture of *Herodotus*, the Sea possessed *Memphis* and a great part of *Egypt*, to the Mountains of *Ethiopia*. But these are but Conjectures of the Historian, of what might be in some thousand Years before he was born. *Aristotle* indeed supposeth, that the City *Thebes* and the adjacent Parts, were all that were habitable in *Egypt* in the time of *Homer*, because he makes no mention of *Memphis*.

But these smaller Vicissitudes, and mutual borrowings and payments between the Earth and Sea, are not those Mutations which so much contri-

contribute to the Reduction of Mankind; partly, because they are gradual and give Men opportunity to escape; and partly because they are not such Devastations as may be *pares huic negotio* (unless we believe that wonderful swallowing up of the vast Island, or rather Continent of *Atlantis*,) and partly because the Sea, which commonly gives in one place what it takes in another, and so makes room for the Inhabitants of the World in compensation of what it takes.

2. Therefore I come to those greater supposed Correctives, namely, 1. Floods and Inundations: 2. *Incendia*, Burnings; and again, both, or either of those are also varied, according to the Opinions of some of the Ancients.

1. They are either such as were all at one time, and did wholly overwhelm and confound this lower World: or 2. They are such as did not wholly dissolve the lower World, or put a period to all things living therein.

Again, the former Opinion that held these Cataclysms and Empyroses universal, was such, as either held that it put a total Consummation unto things in this lower World, especially that of Conflagration: Or else such, as though it quite for the present confounded the Face of things, especially in this inferior World; yet it was but preparative to a new Formation of things, wherein all things would be put into better Order, till in process of time they again degenerate, and so were to receive another Purgation by Fire or Water, according to the fatal Vicissitudes to which the World is subject: And they suppose, that these successive unmaking and making again of the World (not unlike the Suppositions of *Anaxagoras* or *Empedocles*) were Eternal, and should eternally continue in this Vicissitude; that the last Destruction of the World was by Water, and that which is to succeed is by Fire: And this was for the most part the Opinion of the *Stoicks*, whereof *Lipsius* in his second Book *de Physiologia Stoicorum*, cap. 21, 22, &c. hath given us a large Account, out of *Seneca* especially, and others which are not necessary to be repeated; and the rather, because they do suppose that Mankind is neither Eternal nor Perpetual, according to the course of Natural Generation: For these mighty Concussions of Nature, especially that of the Universal Conflagration, puts an end to all the Race of Mankind and all living Bodies; though in the Redintegration of the World after these Destructions there is also a Re-production of Mankind, but not by the ordinary method of Propagation as now.

Again, as to those others that held also certain Periodical Cataclysms and Conflagrations, yet they held them not to be Universal, nor any Universal Dissolution or Destruction of the inferior World thereby; but they were such as were great and notable Devastations, sometimes in one part of the Earth, sometimes in another; either by certain Rotations, or at least in some places more than in other, according to the accommodation or disaccommodation of them to such Calamities: As the Vallies and lower grounds were more subject to devastation by Floods, so the more Mountainous parts were more subject to the desolations by Fire and Conflagrations.

Plato, who seems very uncertain and unsettled in his Philosophy, seems yet to agree with this partial kind of exhausting the numbers

bers of Men and Brutes, by such partial Floods and Conflagrations.

In his third Book of Dialogues, *de Legibus*, he gives us an Account of various Methods of the Declinations of Civil Societies, and of those Laws and Customs, Arts and Sciences in several parts of the World: and again, how and by what degrees they have been repaired and recovered; the means whereof he assigns not only to be Wars and Epidemical Diseases, but great Floods and Conflagrations, which, together with those of *Aristotle* relating thereunto, I shall transcribe out of the *Latin* Translation, because perchance more significant than the *English*, though not so significant as the Language wherein they wrote. And this I do intend to transcribe more largely, because they seem to contain the full declaration of the Instances of this nature.

He tells us therefore in the beginning of his third Book *de Legibus*; *Multos hominum interitus ex diluviis, morbis, aliisque permultis, olim accidisse, ex quibus pauci homines superstites fuerunt.* Again: *Eos qui cladem tum evaserunt (scilicet ex diluviis) montanos quosdam pastores fuisse, in montium cacuminibus pauca semina ad propagandum genus humanum conservata: atqui necesse est eos aliarum artium fuisse expertes, campestres autem & maritimæ urbes funditus illo tempore perierunt. Instrumenta igitur omnia, & quæcunque artium sive ad disciplinam civilem sive ad facultatem aliam pertinentium, extabant inventa, concidisse illis temporibus.* And afterwards: *Ex ea itaque devastatione magnam terribilèmq; humanis in rebus desolationem tunc accidisse arbitramur; fertilium agrorum magnitudinem desertam, ceterisque animalibus corruptis, vix boum caprarumque genus, & illud quidem rarum relictum fuisse, quibus pascendis tunc homines vitam agebant; civitatis verò & disciplina civilis & legum memoriam quidem nullam fuisse putamus. Tempore igitur progrediente, &c. genere hominum multiplicato, ad eum quem nunc videmus habitum provec̃ta omnia sunt.*

Again, the same *Plato* though in his *Timæus* he gives us an Account of the Origination of Mankind, yet he supposeth that a vast Period interceded between that Origination and the Age wherein he lived; and within the compass of that Period, that there happened very great and very many vicissitudes of Floods and Conflagrations in this inferior World, whereby the state of things here was variously altered, and the Numbers of Mankind and Animals corrected and reduced at several times to small proportions, only sufficient to replenish the World, until such time as its Excess and Increase received again a like Correction or Reduction, by the like Revolutions of Floods and Conflagrations, though still without a total destruction of the *Species*.

In this Book he gives us a personated Discourse between *Solon* and an *Egyptian* Priest, who after some discourse of the Antiquity of *Athens*, the Priest tells him; *Vos Græci semper pueri estis, nec quisquam è Græcia senex; quia juvenis semper vobis est animus, in quo nulla est ex vetustatis commemoratione prisca opinio, nulla cana scientia: Nam quod apud vos fertur Phaëtonem quondam Solis filium currus ascendisse paternos, nec patris aurigatione servata, exussisse terrena, ipsumque flammis cælestibus conflagrasse; quamvis fabulosum videatur, verum quodammodo esse putandum est: Fit enim longo temporis intervallo cælestis circuitus permutatio quedam, quam inflammationis vastitas necessario sequitur: tunc hi qui edita incolunt loca magis pereunt quam mari fluviiisque vicini. Nobis prorsus Nilus cum in plerisque rebus nobis salutaris est,*
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tum hujusmodi à nobis arcet exitium. Quando verò Dii aquarum colluvione sordes terrarum diluunt, pastores ovium atque bubulci qui juga montium habitant, periculum illud evadunt; vestrae autem civitates in planitie sita, impetu fluminum ad mare rapiuntur: Sed in nostra regione neque tunc, neque alias unquam aqua in agros supernè descendit; contra verò sursum è visceribus terra scaturit: quamobrem antiquissimarum rerum apud nos monumenta servantur. Proinde, ubicunque nec imbrium tempestas nimia, nec incendium ingens contingit, licet alias plures, alias pauciores, semper tamen homines sunt. Quacunque verò sive à nostris, sive à vestris, sive aliis nationibus gesta sunt memoratu digna, modo ad aures nostrorum pervenerunt, nostris in templis descripta servantur. Apud vos quidem & alias gentes res gestae nuper literis monumentisque traduntur, sed certis temporum curriculis illuvies immensa cœlitus omnia populatur; ideo qui succedunt, & literis & Musis orbatî sunt: quo fit, ut quasi juvenes iterum sitis, & rudes, præteritarum rerum omnium prorsus ignari. Nam & ea ipsa quae modo ex vestris historiis recensentur, à fabulis puerilibus parum distant; primò, quod unius tantum inundationis meminertis, cum multa præcesserint; deinde, quod genus majorum vestrorum in regione vestra clarissimum ignoretis: ex quo, tu, & Athenienses ceteri nati estis, exiguo semine quondam publica cladi superstitæ: quod propterea vos latuit, quia superstitæ illi eorûmq; posterî, literarum usu multis sæculis caruerunt. Then he tells him of the Building of Athens by the Goddess Athena, 9000 Years since, ex terra & Vulcano accipiens semina: the great Wars between them and the Inhabitants of the vast Island Atlantis, greater than Lybia and Asia: the swallowing up of that Island by an Earthquake, *Fugique unius dies & noctis illuvione*. Afterwards Timæus begins, and proceeds with his Narrative touching the Production of the Universe, and therein particularly of Mankind, which I shall have occasion hereafter to mention.

Thus this great Master seems to countenance the Supposition of the vicissitudes of Conflagrations and Floods, especially of the latter, *certis temporum curriculis*; and thereby the excessive multiplication of Mankind corrected, and the vicissitudes of Arts and Laws interrupted, lost, restored, and repaired: Only he supposeth Egypt free from those Floods and Conflagrations; though it seems necessary, that if Inundations prevailed in Greece and those upper Countries, Egypt, that seems to lye much lower, could not easily escape them, though they have no Rain that might occasion them. But the Priest mingles some strange and improbable Stories with his Supposition of those Vicissitudes.

Aristotle the Scholar of Plato differed much from his Master: 1. In his manner of writing, which was much more steady and severe than the Writings of Plato, who mingled Poetical Fancies with the things he delivered, and seems very uncertain and unresolved in most things of great importance. 2. In his Position; for Plato seems not to hold at least the Elementary World Eternal, though very Ancient: But Aristotle, following rather the Opinion of Ocellus Lucanus, and not being able to digest those many difficulties he found in the Hypotheses of the Inception of the World, supposeth it Eternal, and an eternal consistency in the state it now stands; but not without some partial, successive and periodical Changes in the Elementary World.

And therefore in this Supposition of the successive partial Floods or Inundations, and Conflagrations, whereby great Changes happen,

and a fair Corrective and Reduction of the Excess of Mankind, he much agrees with *Plato*. And he gives us a large and learned Account of his Judgment herein, *Lib. I. Meteor. cap. 14.* in these Words; *Eadem terra loca neque semper fluida, neque semper arida sunt, sed pro fluminum ortu aut defectu, faciem mutant suam: Quamobrem diversitas inter Mare & Continentem existit, nec perpetuo alia pro Continenti, alia pro Mari habentur; sed ubi terra aliquando patuit, mare superfunditur; & ubi nunc mare, terra exaggerabatur. Suspiciatque debemus, hac omnia ita fieri ordine quodam & ambitu; horum autem principium causaque existit, quod interiores quoque telluris partes, perinde atque animantium plantarumque corpora, juventutem atque senectutem habeant. Verum istis hæc per partem subire nequaquam contingit, sed simul totum juvenescat aut senescat necesse est: Terra particulatim hoc idem ob frigus & calorem accidit; hæc igitur accrescere simul ac decrescere propter Solis calorem conversionemque assolent.* Then he proceeds to shew, how that successively some parts of the Earth grow moorish or watrish, others dry, where it becomes barren; Fountains and Rivers decay, and sometimes break out in other places; that this makes Changes in the Sea and Land. *At quia omnis quæ circa terram fit generatio non nisi successione & tempore, respectu vitæ nostræ quam longo, fieri solet, ista nobis haudquaquam advertentibus sunt. Atque prius universa gentes intereunt pereuntque, quam horum mutatio ab initio ad finem usque memoriâ teneri queat: Maximas itaque celeritissimæque clades prælia advehunt, alias morbi, nonnullas sterilitates; & hæc quasdam statim magnas, quasdam lentas aded, ut talium quoque gentium transmigrationes nos lateant, propterea quod alii regionem deserant, alii eo usque sustinent, quoad nullam amplius multitudinem alere regio queat. Inter primam igitur novissimamque loci derelictionem, tempora interveniant aded longa par est, ut nemo meminisse possit; imò incolumibus etiamnam hisce qui remanserint, longi temporis injuriâ oblitio irrepsit. Eodem autem modo latere existimandum est quando primum singuli populi, quæ permutata essent & arida à palustribus aquisve facta, inhabitare cæperint.* Then he gives Instance in *Egypt*; *Etenim locus ille totaque regio, quæ fluminis tantum invecu nata est, semper aridior fieri videtur: That all the Ostia Nili, except one, were made by Art, and not by the River: That anciently Egypt was no more but the City of Thebes; which he proves out of Homer; shews, that in the time of Troy that part of Greece inhabited by the Argivi was Marish, and had but few Inhabitants, but now become fruitful and populous: That part of Greece inhabited by the Miceni was fruitful and populous, now become barren. Quod igitur in isto loco, qui parvus, accidit, hoc idem etiam circa loca magna accidere censeamus oportet.* That there is no cause to conceive the Sea less than formerly; for though some places sometimes covered with Water, are added to the Continent, yet in other places the Sea hath gained upon the Land. *Attamen hujusce rei causa ad mundi generativæm haudquaquam referenda; ridiculum enim foret ob parvas brevæque mutationes Universum moveri asserere. Porro, Terræ moles atque magnitudo ad totum Cælum nihil profectò est. Verum horum omnium causam existimemus oportet, quod ut elapsis certis temporum spatiis, inter anni tempora hyems; ita magno quodam circuitu hyems magna, & imbrium excessu fieri solet: at hic non semper eisdem in locis efficitur, sed perinde ut vocatum diluvium quod tempore Deucalionis accidit; etenim hoc circa Græciam maximè, & eam potissimam partem quam antiquam Helladæ vocitant, factum est, &c. Cum autem* necesse

neceſſe ſit quandam mutationem eſſe Univerſi, non tamen ortum & interitum; ſiquidem ipſum maneat neceſſe eſt non ſemper eadem loca mari, aut amnibus humectari atque ſicceſcere, quod reiſſa qua fieri ſolet liquido conſtat. And concludes, That Egypt, Cujus homines antiquiſſimos eſſe diximus, is nothing but a Production of the River Nilus, that is lower than the Red Sea; and therefore that Sesoſtris and Darius gave over that Attempt of cutting the Neck of Land between the Red Sea and Egypt, for fear of drowning that Country: That the Lake Mæotis is ſhallower, and not able to bear Ships of that burthen as it did 60 Years before, by reaſon of the Slime carried thither, which will in time dry it up: That Lakes grow by the exaggeration of Sand by the Sea, which Lakes in time grow dry: That Tanais or Nilus and all other Rivers were ſometime dry Land, and did not run where now they do. At verò ſi amnes habent ortum & occaſum, nec ſemper eadem terra loca ſcatent aquis, ipſum quoque mare ſimili modo mutari oportet, quod cum aſſidue alia deſerat, alia invadat, patet univerſa terra tractus eoſdem hoc Mare, illos Continentem non eſſe, ſed tempore cuncta permutari.

I have mentioned theſe places of theſe Maſters of Learning and Reaſon the more at large, not only becauſe they herein give the ſharpeſt Objections againſt the neceſſity of a Temporary Beginning of Mankind, by applying theſe Suppoſitions as Correctives or Reductions of the exceſs of the Generation of Men and Animals; but alſo they do diſcover herein ſome things that are uſeful in this Inquiry: For Inſtance, 1. It appears hereby that the Inventions of Arts, Sciences, and Laws might be far more ancient than thoſe times that Hiſtorians gave for their Invention: for they might be in other Places or Ages, and either by a ſucceſſive rotation brought from one place to another, or if they were loſt, yet ſucceſſion of Ages might retrieve new Discoveries of them again. 2. We have a plain detection of the means whereby poſſibly the *American* People might have their deduction from the *Europeans* or *Aſiaticks*; becauſe it is not impoſſible but the Continents might be in ſome Ages or other contiguous, though now diſjoyned by the mutations of the ſituations of Seas, though the certain times of thoſe Changes are not tranſmitted by Hiſtory to our Age. 3. That the ancient Hiſtories of things, by Depopulations, Wars, Famines, Inundations, Tranſmigrations of People, and other Accidents may be loſt in after Ages, which poſſibly in former Ages might be known, and ſome Monuments thereof then extant, which are now obliterated and forgotten.

Thus far concerning theſe Reductives by Inundations and Conflagrations, out of the Princes of the Academical and Peripatetical Philoſophers: We ſhall find the like Suppoſitions frequently among the Stoicks, *Seneca* may be an Inſtance for all that Sect, only theſe vary from the former: for although they do with the former admit and inſtance in temporary and partial Inundations by Earthquakes and other Accidents, *de quibus vide Senecam, l. 3. Nat. Quaſt. de Terra motu*: yet theſe go farther, and ſuppoſe Univerſal Deluges and Conflagrations, which will quite alter the whole Frame of this lower World, and the whole Face thereof. See the Rhetorical Deſcription thereof, *Senec. in fine lib. 3. Nat. Quaſt. Qua ratione inquis? Eadem qua conflagratio futura eſt; utrumque ſit cum Deo viſum ordiri meliora, vetera finire. Aqua & ignis terrenis dominantur; ex*
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his ortus, ex his interitus. And out of *Berosus* assigns the Times and Periods of these Universal Deluges and Conflagrations: *Arsura enim terrena, quando omnia sidera quæ nunc diversos agunt cursus in Cancrum convenerint, sic sub eodem posita vestigio ut recta linea exire per omnes omnium possit: Inundationem futuram cum eadem siderum turba in Capricornum convenerit; illic solstitium, hæc bruma confinitur.* But yet he supposeth a Restitution of the World after these Destructions: *Nec ea semper licentia undis erit, sed peracto exitio humani generis, extinctisque pariter feris in quarum homines ingenia transferant, iterum aquas terra sorbebit; natura pelagus stare, aut intra terminos furere coget, rejectus è nostris sedibus in sua secreta pelletur Oceanus, antiquus ordo revocabitur: omne ex integro animal generabitur, dabiturque terris homo inscius scelerum, & melioribus auspiciis natus: sed illis quoque innocentia non durabit nisi dum novi sunt, citò nequitia subrepat; virtus difficilis inventu est, rectorem ducemque desiderat; etiam sine magistro vitia discuntur.*

I shall spare mentioning any more to this purpose, though many more Instances may be given out of the Philosophers of all Sects, and Poets, as *Ovid* and others.

Only I shall subjoyn these two Inquiries, and so conclude this Objection.

1. Whence it is that these Ancients had these Conjectures touching these Floods and Conflagrations, so as to frame them into an *Hypothesis* either for the Castigation of the Excesses of Generation, as *Aristotle* and *Plato*; or to the total Dissolution thereof, as the *Stoicks*; and the means that wrought this Perswasion seem to be these:

1. The things that seem to prevail with the *Academicks* and *Peripatetics* for these Partial Floods and Conflagrations, seem to be those dark and obscure Histories of the things of that nature which had twice before happened in *Greece*: Namely, for Floods, the Tradition of the *Diluvium Ogygium*, or *Diluvium antiquius*, which is supposed by Chronology to be under *Ogyges* King of *Attica*, about 1000 Years before the first *Olympiad*; about 248 Years before the Flood of *Deucalion* in *Thessaly*; about 532 after the General Flood in the time of *Noah*; and about the 2951 Year of the *Julian* Period, and of the World 2187, though there is some variation among the Computations of Chronologers. This was a Partial Flood, as it seems, in *Attica*, part of *Greece*. 2. *Diluvium Deucalionis*, which was also Partial, and about 248 Years after the former, in the time of *Cecrops* first King of *Athens*, or as others, in the time of *Cranæus* his Son: This is that mentioned by *Plato* and *Aristotle*, that drowned a great part of *Greece*, only some saved by *Deucalion* by bringing them to the top of *Parnassus*. And out of the History of *Moses* touching the Universal Flood, and the History of *Deucalion*, *Ovid* made up his first Book, attracting in a great measure to the latter what was written of the former by *Moses*.

And for Conflagrations, they had two traditional Conflagrations in and near *Greece*, which might give some countenance to this Perswasion: namely, 1. That of *Phaeton*, *Incendium Phaetontis*, which seems not to be long after the Flood of *Deucalion*, though much of the Relation thereof, as the *Grecians*, and *Ovid* after them made, was a Poetical Fiction; yet it seems it had something of reality in it, as is observed by *Plato*, *ubi supra*.

2. *Ida*

2. *Ide Incendium*, which was no great business, but an Eruption of Fire out of the Hill *Ida*, as now in *Etna*: this was about 73 Years after the Flood of *Deucalion*.

2. As to the *Stoicks*, who held Universal Inundations and Conflagrations, possibly they might have the former of these from the Traditional Relation of the Universal Flood of *Noah*, which Relation they believed, and upon that founded their Supposition of the like Inundations; being acquainted with the History of the Flood, but not with the Covenant that God made never to bring a Flood again. 2. As to that of the Universal Conflagration of the World, it seems it was a known, ancient and received Tradition among the *Jews* before our Saviour's time, reinforced by him and his Disciples: This seems to be implied in that Prophecy of *Enoch*, *Jude* 14. and by ancient Tradition, either from *Noah* or the ancient *Jews* this Persuasion might be Traditionally derived to the *Gentiles*, and believed by the *Stoicks*.

2. It appears by what hath been before transcribed, That these Philosophers supposed those Inundations and Conflagrations to be at great distances of times, and yet to be in some sort Periodical, and with a kind of stated Revolutions. *Plato* supposeth his Floods to be *certis temporum curriculis*: *Aristotle* supposeth his Floods to be also Periodical, *Hec omnia fieri ordine quodam & ambitu*; and again, *Magno quodam circuitu hyems magna & imbrium excessus fiunt*, bearing some proportion to our Season of the Solar Year. Therefore it may be fit to consider what kind of Year this must be wherein this *Hyems magna* is supposed to happen.

Seneca as before hath given us out of *Berosus* some description of the Periods, namely, when all the Planets shall meet in one straight Line drawn from the Center of the Earth to the Tropick of *Cancer*, then the great Conflagration shall happen; and again, when they meet in the like position under the Tropick of *Capricorn*, then the Universal Deluge shall happen. So that these two Conjunctions divide that *Annus magnus* into two parts, and the Summer-Solstice thereof shall be for Conflagration, the Winter-Solstice for the Inundation, or that *Magna hyems* which *Aristotle* hath assigned for his Periodical Inundations. But what is that *Magnus annus* wherein these Revolutions must happen, or what number of Solar Years it contains is uncertain, some assigning a Period that seems too short, some a Period of a wonderful length.

Censorinus, *de Die Natali*, cap. 10. speaking of this *Magnus annus* whereof *Aristotle*'s Winter seems to make the Conclusion, gives us several Estimates of the same, some making them 2484 Years, others 5552 Years, others 10224 Years, others 100020, others 360000 Years, and others supposing it Infinite, and that such a Conjunction will never happen.

Macrobius in *Somn. Scipionis*, lib. 2. cap. 11. both describes and determines this *Magnus annus* to be when all the Heavenly Bodies shall return to the same position as they were in any time given, which he resolves to be 15000 Years, in which all the Heavenly Bodies shall be in the same position as they were 15000 Years before. So that if we should assign the *Caput anni* to be this Day and Year wherein I write, at the end of 15000 Years all the Heavenly Bodies will be in the same position that now they are; this he calls *Annus mundanus*.

Josephus, lib. 1. *Antiquitat. cap. 4. in fine*, determines that the *Magnus annus* is

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is 600 Years; and yet the Flood happened not till 1656 Years from the Creation; which according to the Supposition therefore of *Aristotle* should be the *Magnus annus*, and that Year the Winter-Solstice thereof.

Plato supposeth that the *Magnus annus animarum* is 12000 Years, for in that Period the Soul hath run through all the Spheres and Dances of the Gods and *Dæmons*, and returns to its first Station; and the *Annus magnus mundanus* consists of three of those Periods, namely, 36000 Years, wherein the Soul of the World hath performed its great Circuit, or one Revolution of the eighth Sphere: *vide Marsil. Ficin. prolog. in lib. 10. Platonis de Republica*: and then not only all the Heavenly Bodies will be just in the same position in which they were 36000 Years before, but all Humane things will be in the same state as they were.

*Alter erit tum Typhis, & altera que vehet Argo
Dilectos heroes; & erunt itidem altera bella,
Ad Trojâque iterum magnus mittetur Achilles.*

The *Egyptians* had their great *Apocatastases*; *viz.* 1. *Apocatastasis dierum*, which was 1461 Days: 2. *Apocatastasis annorum æquabilium*, which was 1461 Years: 3. Their *Apocatastasis magna*, consisting of 25 *Apocatastases annorum*, which amounted to 36525 equable Years; which was their *Magnus annus canicularis*, whereunto *Manetho* accommodates his fabulous *Egyptian Dynasties*.

There seems to be another *Annus magnus*, *viz.* the Motion of the ninth Sphere or ChrySTALLIN Heaven, from West to East; which though some to make it agree with the *Magnus annus Platonius* suppose to be 1 Degree every 100 Years, in all performing its Revolution in 36000 Years, according to the great *Platonick Year*; yet *Alphonsus* allows a greater number of Years to that Revolution, *viz.* 49000 Years: and others I think more. But I think that we shall not be able to fit the Seasons of this Year to the *Magna hyems Aristotelica*, or his Winter-quarter; because 1. We know not whether any of these, or any other that can be found, will suit with these Instances upon which it may be thought he grounds his Supposition; for the *Incendium Phaetontis* and the Flood of *Deucalion* happened very near one the other, as also the *Incendium Idæ*: and besides, if that Flood of *Deucalion* had fallen within the Winter-quarter of any of these *Anni magni*, it would have had a longer Influence upon the World, and extended at least successively to all the several Parts thereof. For the Winter-quarter of the *Magnus annus Platonius*, if it had any thing of proportion to our Seasons, must have been a fourth part of that *Magnus annus*; and then it had lasted above 8000 Years: But howsoever it must upon the lowest Account have lasted a thirty sixth part, *viz.* 1000 Years; and then the Effects thereof would certainly have been more permanent and extensive than to one or two Floods in *Greece*. 2. Again, could we know the extent of this *Magnus annus*, yet we can never find the *Caput anni*, when it begins, and consequently cannot possibly assign any probable Period for the Seasons of it; unless we shall fondly with *Virgil* suppose it began with the Birth of his Patron *Pollio's* Son,

Jam redit & virgo, redeunt Saturnia regna.

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Again, these must needs be merely Conjectures, and can have no possible Evidence because merely depending upon Fact and Experience: it is not possible that any Man, or any Age of Men can give us any Account of any one Revolution of this *Magnus annus*, which amounts to 36000 Years.

Therefore it seems difficult, and utterly uncertain to suppose those Inundations and Conflagrations to be Periodical in any proportion to any supposed time or duration.

And thus far touching the urging of this Expedient for the Reduction or Correction of the Excesses of the Generations of Men or Animals, by Periodical Floods or Conflagrations; which though the Generations of Men were supposed Eternal, might Regulate and Reduce their Numbers when beginning to be immoderate, as our annual Winters correct the excrecence of Insects, whose multiplication is far more excessive than that of Men, and would appear so, if we had a perpetual Summer; yet are reduced to a mediocrity and due equability by the vicissitudes of Winter Cold and Rain.

C A P. X.

The farther Examination of the precedent Objection.

I Have been the longer in the Explication and Inforcement of the former Objection, because as the necessary and sensible Multiplication of Mankind upon the face of the Earth by the ordinary course of Natural Generation, seems to be the most sensible Evidence of Fact against the Eternal Succession of Mankind; so the Reductives mentioned in the foregoing Chapter seemed with most Evidence of Sense to weaken the Inference upon that Observation, and by the Supposition of those continual or interpolated Correctives to render the possibility of an eternal consistence of Propagations of Men, yet without an over-charging of the World with a multitude inconsistent with its reception.

I shall now descend to the Examination of these supposed Correctives of the excess of the number of Mankind, and how far the same may be true; or if true, how far the same may be, or hath been effectual to that end.

Wherein, first I shall set down what is to be agreed touching the same, and wherein we differ from that Supposition of the efficacy, or availableness, or accommodation, or suitableness of these Reductives to the end proposed, namely, to the containing of the Generations of Mankind in such an equability and proportion as may be consistent with an Eternal Succession of them.

Touching the first of these things it must be agreed, 1. That there have been great Devastations and Decrements of Mankind by all or many of the Means mentioned in the former Chapter, namely, Plagues and Epidemical Diseases, Famines, and Sterilities of great parts of the World; Wars and Internecions, not only in Battels and Fights, but even in Per-

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secutions and Massacres, witness the great cruelty of the persecuting Emperours against the Christians, the cruelty of the *Spaniards* among the *Indians*, the violent bloodsheds of the Papists upon the Protestants, as the late and former Instances abundantly testify: And also by Floods and Inundations, especially that Universal Deluge in the time of *Noah*, which probably did sweep away as great multitudes of Mankind as are now existing upon the Earth, considering what a Product might arise in the compass of 1656 Years, the interval between the Creation and the Flood upon the shortest Account, though the *Septuagint* render it much longer: and it is not easie to judge to what a Sum Mankind might arise to in such a Period, considering the great longevity of Man's Life in those times; only it is plain that it must needs arise to a greater proportion than thrice so long a Period would yield, when Mens Ages were reduced to less than a tenth part of the same longevity.

2. It is certain, that were it not for such Reductives as these above mentioned, though we should suppose that the *Capita humani generis* were only *Noah* and his three Sons, and that the Generations of Mankind began since the Universal Flood, yet the multitudes of Mankind would in this Period since the Flood have risen to such an excrescence, that according to the ordinary method of Propagation (though the Lives of Men were no longer than now they are) that the Earth would not have been able to have received its Inhabitants.

3. It is also therefore evident, that the most wise and glorious God hath used these Means above mentioned for most wise and excellent Ends. For it is the high Prerogative and Advantage of his infinite Wisdom, to bring about complicated and various excellent Ends in one and the same act of the dispensation of his Providence, by Plagues, Wars, Earthquakes and Floods (all which are at least permitted if not inflicted, but howsoever most wisely and infallibly governed by him) he punisheth the Sins and Enormities of Mankind, and reduceth the World to such a due proportion as may be consistent with their convenience and reception in this Earth: And for this cause, while the World was but thin and empty of Inhabitants, the Ages of Mankind were longer, and more accommodated to the peopling of the World; and as the World grew by that means fuller, so their Lives were successively reduced to a shorter scantlet, till they came to that ordinary Age and time of Life which now they have, and for near 4000 Years have held.

4. Therefore also it must be granted, that the apparent Multiplication of Mankind upon the face of the Earth singly considered, is not any Demonstration or Apodictical Argument against the Eternity of Mankind: Since, as it is most evident, that there is a most wise and powerful God, who hath a care of the Inferior World as well as the Superior, and whose Providence (notwithstanding the contrary Sentiments of *Aristotle*) reacheth below the Moon, and governs the World with much more Accuracy and Wisdom than a Gardiner orders his Garden: I say, since the Regiment of the World, and especially of Mankind, is so actually under the Care, Wisdom, and Power of Almighty God, he that for near 6000 Years by those Methods of his Providence above mentioned hath kept the World of Mankind in a due proportion and equability, which otherwise would have grown too great for its reception, could have inter-

interposed with the like Correctives for twenty thousand Years as well as six, and for a million or other interminate duration; for the time past or to come; and so have prevented that enormous exereſcence of Mankind, that in an infinite time or duration would have long ſince ſurcharged the World; and upon a Suppoſition of a future Sempiternity would produce the ſame difficulty; without ſuch interpoſition of the Divine Wiſdom and Providence.

But all this while it muſt ſtill be remembered, that this Suppoſition ſtill takes in the Wiſdom, Providence and Regiment of the glorious God; for without an intelligent Rector of the World, that *ex intentione* thus orders the Affairs of Mankind, theſe Reductives either barely, as accidental, or contingent, or periodical and neceſſary, were not equal nor competent Reductives of the Generations of Men, but would be too much or too little, or unſeaſonable in time, place, meaſure, or other Circumſtances for ſuch a Buſineſs, as ſhall be ſhewn.

We therefore are not enquiring what the wiſe and glorious God might or could do in order to the equable Reduction of the World, upon a Suppoſition of an Eternal Duration; but we are upon a Queſtion of Fact indeed, namely, What he hath done, and whether upon the Suppoſition of all thoſe Reductives inſtanced in the former Chapter, at leaſt without the wiſe and intelligent Regiment of God, they have been, or well could be: conſidering the nature and courſe of things of that efficacy to correct the increaſe and exceſs of Mankind, that may render it competeble with an Eternal Duration.

I therefore ſhall now come to the things I oppoſe, and they are theſe two; *viz.* 1. That theſe Means conſidered ſimply in themſelves (without the Conduct and Guidance and Interpoſition of the mighty God) are in themſelves incompetent and unſuitable to the Ends propoſed: and 2. That *de facto* they have appeared to be ſo; and notwithstanding their admission, yet *de facto* the World hath in all Ages increaſed.

Touching the former of theſe, the Incompetency of theſe Expedients to the End propoſed (conſidered ſingly in themſelves) this will beſt appear by induction of particulars.

For Famines, they are *de facto* incompetent to theſe Ends: for 1. There was never yet known a Universal Famine, but the defects of one Country ſupplied by another, as *Canaan* was by *Egypt*. 2. It is ordinarily not ſudden but gradual, and foreſeen before felt in the extremity, which gives People opportunity of tranſmigrations. 3. Though the ordinary ſupplies fail, yet neceſſity makes Men ingenious and hardy, and if they have but Land-room or Sea-room, they find ſome ſupplies for their hunger which they did not before think of or uſe, though it be otherwiſe in a cloſe Siege, but that is but a narrow compaſs, and not of moment to be compared to the multitudes abroad.

2. Plagues are indeed a ſharp and ſpeedy Viſitation, yet it hath theſe Allays: 1. Many there are that are able to eſcape it by Flights, ſome by Phyſick, and ſome by their Age and Complexion. 2. It is not ordinarily of long continuance, the ſtrength of the Diſeaſe ſeldom continuing longer than a Year. 3. Though the Deſolation be terrible while it laſts, yet it rarely conſumes one half of the Inhabitants. The late Computation of the Number of the Inhabitants, Men, Women and Children in

the City of *London* and the 16 and 10 Out-Parishes are estimated at 384000, and about six Millions in the whole Kingdom of *England*. 2. The greatest Plagues in our remembrance have not swept away above 100000 at most in *London* and the Suburbs: Indeed that before mentioned by *Walsingham*, which was in a manner Universal, and successively in several places of the World lasted about 15 Years, is said to be so great, that scarce a tenth part of People survived it; yet if it left a tenth part, suppose in *England*, it left near a Million of People, which in a little time would and did recover and increase considerably, as shall be shewn. 4. Again, suppose the Devastation by Plagues greater than History gives us an Account, yet it is for the most part a Disease that reigns in some times and some places, it may fall in those places where the numbers are already too small, and need an Increase. And so taken singly by it self, is incompetent and unsuitable to the Excess, unless managed by the wise Conduct of Almighty God.

3. Touching Wars and Internecions. It is true, it hath been a great Consumption of Mankind, but yet it is not an equal Corrective of the Excess of Generations: 1. Though such have happened, and frequently, yet they seem against the nature and disposition of Mankind, ordinarily and in a course of Humane Constitution: Naturally Mankind is a sociable Creature, and more than Bees, as the Philosopher observes, and though sometimes Passions, Jealousies and Politick ends produce Wars, yet naturally Man is not a Creature of prey upon others, as Lions and Tigers are. 2. Ordinarily, though Wars are by one Kingdom or State upon another, yet they preserve their own Societies with increase under Foreign Wars, and therefore Civil Wars as they are more destructive, so they are more rare, because they are more unnatural and destructive to that which Men usually are careful to preserve, namely, their own Societies. 3. It seems an improper and unsuitable Corrective, because Accident and the Wills of Men have so great an Influence in the production of Wars, whereby it may fall out that Wars may happen in those Ages, Times or Places, and consequently, Devastations upon them where or when they need not to correct. And though it be true, that a Plethora or Excess of Numbers of Men, sometimes by a kind of Natural or at least Moral Consequence cause Wars, yet we have hardly known any produced singly upon that Account, though it hath oftentimes occasioned Transmigrations, deductions of Colonies, and new Plantations; and the World hath been never yet so full, but a weaker or oppressed Party have found room to retreat from the violence or insolence of their Oppressors.

4. Touching Floods and Conflagrations. It is true that Almighty God as he manageth the forementioned Reductives by his Wisdom and Providence, so he hath done these especially in that Universal Deluge: But as they are instanced in by the Philosophers as Natural or Periodical Events whereby Mankind is reduced to an equability, we have no reason to believe them. Therefore I say, 1. That there doth not appear, either in History or in the Observation of Nature, any such Periodical Floods or Conflagrations; those that we have Relations of happened indeed near together, and in the same Country, viz. in *Greece*, had they been Periodical or Natural, probably either by a continued Circulation or Rotation, or
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else by the interposition of some reasonable intervals, the like would have happened before in *Persia* or some Easterly parts of *Asia*, or since in *Italy* or *Germany*, or some other Western parts of the World, which we have not observed to be. And therefore this Supposition of the *Hyems magna*, whereby parts of the Earth should be successively drowned, seems to be only an Imagination, or at least it cannot be known with any tolerable certainty; in as much as the Periods are supposed to be vast, and not happening within any competent time to give us an Observation or Proof thereof. And therefore although we yearly see a reduction of the numerous increase of Insects, by the Winter Frost and Storms yearly happening; we have no warrant from thence to imagin that great Winter that must make the like reduction of Men and Brutes; for every Year gives us Experience of the one, but never any Age gave us any reasonable Observation, upon which to build an *Hypothesis* of the like Periodical Revolution of the other: and the same I say touching Conflagrations. Indeed there have been accidental and particular Instances of both, but not any Periodical Return or Revolutions thereof, *quasi in quodam ambitu & circuitu naturali*. 2. If such were supposed, yet unless they were very sudden, and very general, they would not be sufficient to make the Correction: Men would escape Floods by running up to Mountains and Hills, and though some might perish through improvidence, or though the suddenness of a Deluge, many would escape. 3. Natural and Periodical Floods or Conflagrations would not be futable nor commensurate to the Increase, which depending either upon Accidents or the Wills of Men, would possibly be more in one place than in another: The Country of *Palestine* would be more peopled than the Sands and Desarts of *Arabia*, *Egypt* than the Mountains of *Ethiopia*; and fruitful Countries, or Countries open to Trade, and safe from Incurfions and Invasions; more populous than barren Countries, or such as are out of the way of Trade, or subject to Inroads: But Natural and Periodical Floods or Conflagrations would probably keep some constant or ordinary Tract or Course, either from East to West, or from North to South; and possibly keeping in such a Climate or Latitude, possibly in another; whereby possibly these Plagues might be more fierce in those places or Continents where the World wants People, and less vehement in those places where there needs a Corrective for their excess: If these should be Universal, they would destroy the Race of Mankind; if Partial, they would be perchance weak and insignificant Reductives of the excess of Mankind.

When all therefore is done, though it be plain that these and the like Calamities are certain Reductives of the excess of Mankind, yet they are incompetent of themselves, and upon a bare Supposition of Natural or Accidental Effects. But it is true, as they are either brought and inflicted, or managed and governed by a most wise and intelligent Being, they are useful, and wisely applied to this End among others.

But in the whole management and conduct of these Events and Occurrences whereby Mankind hath been reduced and corrected, we shall observe very easily that Mankind hath still increased, and the World grown fuller, even to manifest Sense and Experience, which was the second thing I propose to be considered.

2. Therefore I do affirm, That notwithstanding all these Ordinary
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And Extraordinary Occurrences that have afflicted Mankind, as shortness of Life, divers Casualties and common Diseases; loss of Men by Navigation, the Intemperance and Luxury of Mankind, the Weaknesses and destructive Sicknesses incident especially to Infancy, Childhood, and Youth, Abortions voluntary or accidental, and all those ordinary Casualties incident to our nature. And notwithstanding also those great and vast Consumptions by Famine, by Pestilence, by strange and Epidemical Diseases, by Wars and Battels, Sea-fights, Internecions, Massacres and Persecutions, Earthquakes, Floods, Inundations, Conflagrations, or what other extraordinary or terrible and universal Accidents that have happened to Mankind in any or all the Ages past since the Flood of *Noah*; Mankind hath notwithstanding all these increased and grown fuller, the Generations of Mankind have exceeded their Decays.

And because this is an Assertion of Fact, it is impossible to be made out but by Instances of Fact.

And although it be impossible for any Man to give an Account of all the Nations of the World collectively, and so to make out the Fact; yet if the Instance can be made out in one or two Nations, whereof a true and clear Account may be given, it will be more than a common probability that the same may be concluded concerning the geaerality of Mankind.

And therefore I shall single out the Instances of two Nations, touching whom the clearest Account of their Original and Increase may be given; and such also as had as great an Experience of the severest of these Correctives, and possibly much greater than any determinate People or Nation in the World besides.

The first Instance I shall give is the Nation of the *Jews*, and I choose this People for my Instance, 1. Because their first Original, and the time wherein it began is most clearly, evidently, and unquestionably known, and the time wherein it was. 2. Because their several Increases and Abatements and Successions, with the several times thereof, even down to the last Dissolution of their City under *Titus*, is most clearly by a continued History plainly and authentically discovered. 3. Because by the strange and admirable Providence of God, even since the Dissolution of their State and Republick they have been to this day continued a separated People from the rest of the World; notwithstanding their remarkable dispersion among all Nations, among whom they have yet remained distinct as a signal Monument of the Divine Truth and Justice, and for what other secret ends and purposes, is best known to the Divine Wisdom. 4. Because this People hath been in all Ages exercised with as many Plagues and Slaughters and Devastations of all sorts, as ever any People under Heaven were. And 5. Because the particulars of these Devastations, and the several Times and Ages wherein they happened, and oftentimes the Numbers cut off thereby are Recorded by the several Authentical Histories of that People, which are extant to this day. And 6. Because their Increase even at this day, as in their several antecedent Periods, is signal and evident to all the World. So that what is verified touching the Increase of that People, may in all congruity of Reason be assumed and determined much more touching any other People, and all the People in the World: since none had ever greater Instances of

of Abatements or Correctives of the Excess of their Number than this People. Lastly, Because there can be no pretence that their decays or diminutions by those Occurrences were supplied by the accession and conjunction of others of other Nations to them: Since it was their Privilege in which they gloried, and which they strictly and religiously observed, To keep themselves separate and distinct from the rest of Mankind.

I shall not be scrupulous or curious in the Chronological niceties touching their several Periods, because in this and other Computations that I have used I do not aim at curious or precise Computations, but only to shew the Order and *Series* of Things for the discovery of what I intend; and therefore shall take the Account of *Helvius*, as being plainest and readiest at hand for my purpose.

Isaac and *Rebecca* were the two next immediate Parents of all the Families of *Esau* and the *Edomites*, and *Jacob* and the *Israelites*.

In the Year of the World 2108 were *Jacob* and *Esau* Born: I shall leave the Families of *Esau*, and carry down that of *Jacob*.

In the Year of the World 2238 *Jacob* goes down into *Egypt*, having then 70 Persons descended from him; which Increase was in the compass of about 130 Years after the Birth of *Jacob*, and about 70 Years after his Marriage with *Leah*. *Gen.* 46. 27.

The *Israelites* increase in *Egypt*, yet not without a great destruction of them by their severe Bondage, and by the Slaughter of their Males. *Exod.* 1.

In the Year of the World 2453 the People of *Israel* came out of *Egypt*, which was about 215 Years after the going down of *Jacob* to *Egypt*.

In a short time after the Migration of the *Israelites* out of *Egypt* they were numbred, and the Number of their Males that were above 20 Years old then amounted to Six hundred and three thousand, five hundred and fifty, besides the *Levites*; from a Month old amounting to 22000. *Numb.* 1. 46. and 2. 32. and 3. 39. and if we should take into the number of the Eleven Tribes Women, and Children under 20 Years old, we should reasonably have more than triple the number, *viz.* above two Millions.

From this time to the time of *Phinehas* we have no certain estimate of their Numbers, yet in this Interval they had very great Abatements and Diminutions, as will appear by these Instances.

That all this number of People above 20 Years old, except *Joshua* and *Caleb*, died in the compass of their 40 Years wandering in the Wilderness, *Num.* 26. 65. yet some of them could not exceed 60 Years of age.

Of the Plague 34000 in the Wilderness, besides the Complices of *Corah*: *Numb.* 16. 49. and 25. 49. besides those that died of Fiery Serpents. *Numb.* 21.

After the death of all that were before numbred, they were again numbred all except the *Levites*; and the Number of all the Males from 20 Years old and upwards, were Six hundred and one thousand, seven hundred and thirty: among these was the Land after divided by *Joshua*. *Numb.* 26. 51, 53.

I do not remember any Numeration of the People from this time till the time of King *David*, and in that Interval that People suffered very great detriments.

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1. By the Wars with the *Canaanites* under *Joshua*, wherein though they were victorious, yet it could not be without great loss of Men.

2. After this they endured in the time of the Judges great diminutions under the Kings of *Mesopotamia*, *Canaan*, the *Midianites*, the *Philistims*, the *Ammonites*, besides about 65000 Men slain in the Civil Wars with the *Benjamites*.

3. The Wars in the time of *Saul*, wherein though he was often victorious, yet at last he suffered a great Slaughter by the *Philistims*.

4. The Wars of *David*, both with Foreigners and the Rebellious in his own Kingdom; wherein though he were victorious, yet those Victories could not be obtained without great Losses: In the Business of *Abjalom* 40000 of the *Israelites* slain and lost in one Battel, 2 *Sam.* 18. 7. in the latter end of the Reign of *David*, about the Year of the World 2925, which was 435 Years after the Numbring of the People by *Moses* and *Eleazar*, *David* again Numbers the People, and then the Account of the People of *Israel* was 800000 valiant Men that drew the Sword, and of *Judah* 500000 valiant Men, 2 *Sam.* 24. 9. in all 1300000 fighting Men: and if we should take in Women, Children, and Aged, it is probable they were above five Millions.

So that in the space of 435 Years, notwithstanding all these Decrements they were increased about three Millions.

The next Account of the Numbers of the Tribes of *Judah* and *Benjamin* only under *Jehosaphat*, 2 *Chron.* 17. 14. and though in the interval between *David* and *Jehosaphat* these two Tribes received considerable Allays by Wars, Plagues, and Famines, yet the Number of the mighty Men of valour of *Benjamin* was 380000, and of the Tribe of *Judah* 780000 mighty Men of valour. The Increase of *Judah* between that and *David's* Numeration was 280000 fighting Men; and therefore the Increase of Women, Children, and Aged not fit for War, must needs be much greater and more considerable; and yet this was in a Period only of those Years that intervened between *David* and *Jehosaphat*.

After this the ten Tribes were carried away Captives by *Salmanasser*, 2 *Kings* 17. and only *Judah* and *Benjamin* remained: so that now all our Account must run upon these two Tribes, the rest being carried away, and probably confounded and mingled among the Gentiles. And if we consider what Calamities these two Tribes endured by Wars and Captivities from the time of *Hezekiah* until their deportation into *Babylon*, we may reasonably suppose that they had as great a Reduction as ordinarily could befall a People: *Manasseh* carried Captive to *Babylon*, which probably was the issue of some great Siege or Battel; *Josiah* slain in Battel by *Pharaoh* King of *Egypt*; *Jerusalem* taken by *Nebuchadnezzar* in the 8th Year of *Jehojachim*, 2 *Kings* 24. 12. again in the 9th Year of *Zedekiah* the City again besieged, and after two Years Siege and great Famine and Slaughter, taken. *Jer.* 39. 12.

These severe Administrations of War could not be without great Desolations, Slaughters and Mortalities, though their Number is not recorded.

The People were carried away Captive to *Babylon* in the Year of the World 3362 or thereabouts, which was about 437 Years after the Reign of *David*; seventy Years after the Captivity, viz. about the Year of the

the World 3420, there was a Return of the *Jews* under *Cyrus*, which continued in Partial Remigrations for some time after.

The numbers of those that returned first with *Ezra* were 42360, *Ezra* 2. 64. this seems to be the greatest number: there were other Remigrations in the time of *Darius* and *Artaxerxes*, both in the 27th Year, though the certain number be not mentioned. We will therefore take scope enough, and suppose them in all 100000 Persons; which is more than double to those that came up with *Ezra*.

These continued in a troubled condition from the time of the cessation of the *Persian* Monarchy until the time of Christ, and rarely without Wars, as the History of the *Maccabees* gives us an account; especially under *Antiochus Epiphanes*, who made great slaughter of them.

After that, *Pompey* by Arms took *Jerusalem* and subdued *Syria* in general, not without great bloodshed; and as they were naturally an unquiet People, so the Histories tell us that the *Romans* and their Governours exercised great severity and bloodshed among them.

And yet for all these Correctives and Decrements of this unquiet People, *Josephus* tells us, that *Nero* willing to take some Account and Estimate of them by their great convention and concourse in their *Paschal* Solemnity, found their number to be Seven and twenty hundred thousand Persons, *Joseph. de Bello Judaico, l. 7. pag. 968.* where Strangers might not be mingled with them in that Solemnity.

The Destruction of *Jerusalem* under *Titus* and *Vespasian* is supposed to be under the 66th Year after the Birth of Christ; about the Year of the World 4006 which was about 586 Years after the Return under *Cyrus*: *Josephus* gives us an Account of those that were slain at the Siege of *Jerusalem*, viz. 110000, and Prisoners taken 90000, *Joseph. lib. 7. cap. penult.* besides the multitudes slain in *Cyrene*, *Alexandria*, and other places not easie to be remembred.

By which we may reasonably conclude, That in the Period of about 600 Years this Nation of the *Jews* increased to 27 times more than when they returned under *Cyrus*; for then we allow the number of them that returned to be 100000, but now they were increased to 2700000.

It is true, some of the *Jews* escaped this Slaughter and Captivity, suppose we the number of those that escaped were a Million of *Jews*, such I mean as held rigorously to their *Jewish* Law; for many became Christians, and left much of the *Jewish* strictness, and possibly mingled with other Nations.

But if we should now examin the multitude of the *Jews* in *Europe*, *Asia* and *Africa*, we shall find vast numbers of them in all the Trading Cities and Countries except *England*, *France*, *Spain*, *Portugal*, *Naples* and *Sicily*, from whence they were formerly banished; yet even in those Countries from whence they have been banished, they are in great numbers, but yet under the disguise of other Names and Nations: But if all the *Jews* (I mean those descended from the *Reduces captivitatis Babylonica*) which are in *Germany*, *Bohemia*, *Poland*, *Lituania*, *Russia*, *Venice*, *Rome* and other parts of *Italy*; in the Dominions of the *Turks*, *Persia*, *Arabia*, *India*, *Africa*, at *Alexandria* and other parts of *Egypt*, were collected into one Body, they would exceed in number any one of the greatest Nations of the World, and yield an irresistible Army, if they had Weapons and

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Courage in any measure proportionable to their Wealth, Craft, Subtilty, and Numbers.

So that notwithstanding all the Abatements and Decrements they have had by Wars, Oppressions and Internecions, Plagues, Famines, and other Calamities, we find the Product of one Nation derived from only two Persons, *Isaac* and *Rebecca*, in the compass of about 5000 Years swoln into incredible numbers of Millions of Persons now existing, and known to be of that Linage and Descent, and still continuing unquestionably in that Distinction, besides those multitudes derived from the Line of *Esaú*, and the ten Tribes, which are as it were lost and confounded, without any distinction among other Nations. And thus far of the first Instance, concerning the Multiplication of the Nation of the *Jews*.

The next Instance that I shall give shall be nearer home, the Kingdom of *England*: I shall not give any Instance touching it before the Conquest, because those times are dark, and besides, the Vicissitudes and Successions of various Nations in this Kingdom renders the discovery of the Progress of Generations of Men, or the Increases thereof, difficult; as *Britons*, *Romans*, *Picts*, *Saxons*, and *Danes*.

The ancient Inhabitants were the *Britons*, the Body of which People hath been in a great measure shut up and contained within the Country of *Wales*; but what by the transplanting of many of the *Welsh* into *England*, and by transplanting of the *English* into *Wales*, it is not possible to say that all the *Britons* are confined to the Country of *Wales*, or that none but *Britons* are there: and therefore there can be no particular or evident Conclusion made touching their Increase or Multiplication. But I shall take a shorter Period or Compass of Time, namely, the last 600 Years or thereabouts since the *Norman* Conquest.

And although it may be true, that many Persons of Foreign Countries have come into *England* and planted themselves here, so that the whole Increase of this Kingdom cannot be singly attributed to those that were either Natives, or such as came in with the Conquerour, but many *Scotch*, *Irish*, *Dutch*, but especially *French*, either by Naturalizations or Transmigrations have increased the Inhabitants of this Island; yet considering that probably the Migrations of the *English* into *Scotland*, *Holland*, *France* and other Countries, have made amends for their Migrations hither: We may make a reasonable Conjecture, that the Descendents from those that inhabited this Kingdom in the time of the Conquerour, have increased exceedingly above what they were in that time.

And the Evidence thereof is this: King *William* the First, after his Victory over *Herald*, did in the 16th Year of his Reign over *England* cause a Survey to be made of all the Cities, Towns, Mannors and inhabited Lands in *England*, *Northumberland*, *Cumberland*, *Durham* and *North-wales*.

This Survey was finished in the 20th Year of his Reign, and the Book it self preserved to this Day among the Records of the *Exchequer*, not only a Transcript or Copy, but the very Original Book it self, and is called *Doomsday*: In this Book are entred the Names of the Mannors or inhabited Townships, Boroughs and Cities, and the Owner of them, the Number of Plough-Lands that each contains, and the Number of the Inhabitants upon them, under the several Names appropriate to those Places:

Places; As for Instance, *Ibi* 12 *Burgenses*, 5 *Villani*, 5 *Bordarii*, 5 *Nativi*, 5 *Radimiches*, 5 *Cotterelli*; and the like, according to the quality or condition of the Inhabitants: So that this Book in effect gives an Account not only of the Manurable Lands in every Mannor, Town, or Vill, but also of the Number and Natures of their several Inhabitants.

To make a Calculation of the Number of Plough-Lands and Inhabitants through all *England*, as they are recorded, and to make therewith a Comparison unto the present State and Number of Inhabitants at this Day throughout *England*, is a laborious piece of work, but it is not difficult to be done in any one County; I have tryed the Comparison in the County of *Gloucester* through some great Boroughs, as *Gloucester* it self, *Thornbury*, *Tetbury* and other places, and in effect through the whole County; and I do find,

1. That there are very many more Villis and Hamlets now than there were then, and very few Villages, Towns or Parishes then, which continue not to this Day; but now there are as many as then, and many more. The 5th of *March*, 9 E. 2. there issued Writs to the Sheriffs of the several Counties, to return the Names of the several Villis and Land-Owners in their several Bayliwicks, which was accordingly done, and remains of Record in the *Exchequer* under the stile of *Nomina Villarum*; and the Sum of the Villis of *Gloucestershire*, together with the five Boroughs of *Gloucester*, *Bristol*, *Berkley*, *Dursly*, and *Newetham* amounted to 234, which I take it are more than are in *Doomsday*, and yet not so many as are at this day; and those that continue to this day, are far more populous than they were at the taking of either of those Surveys.

2. That there is much more Tillage, and more Plough-Lands now than there were then; which happens by the reduction of many great Waits and Commons into Tillage, or Meadow, or Pasture, which then were only Waits, and therefore not particularly surveyed because of no considerable Value, and not taken notice of in that Survey.

3. That the number of Inhabitants now are above twenty times more than they were at that time, as well in particular Towns, Boroughs, and Mannors, as in the general extent of the County; and yet that Survey, even as to the number and quality of those that resided in those Towns or Mannors, at least as Housholders, is very precise and particular: I have not yet made an exact particular Calculation of the Number recorded in that Book [through the whole County, but I will give a few Instances of particular Towns, which may give an estimate touching the whole.

Gloucester is now a very great and populous City, formerly before the time of H. 8. a Borough: In the Survey of *Doomsday* it is surveyed distinct from the *Bertun* of *Glouc'*: the grofs of the Borough is surveyed together in the beginning of the County, but there are some other particular Burgages thereof mentioned under the Titles of particular Mens Possessions; as, *Terra Rogeri de Lacy*, *Terra Elnuffi de Hesding*, &c. The whole concretion of the City of *Gloucester* consists partly of what was the ancient Borough, partly of accessions from the Mannors or Villages adjacent, as *Barton* and some others: I shall therefore cast up the whole Number of all that were in *Glouc'* or *Barton*.

Hh 2

In

In the Survey of *Gloucester* there are reckoned 23 Burgages and Houses, 16 that were demolished for the building of the Castle, 14 that were wasted, and some that belonged to *Osbertus Episcopus*, not numbred, but yielded the yearly Rent of 10 Shillings; which according to the usual rate of the Houses in *Gloucester* at that time, which was at 5^d or 6^d a House, might produce 20 Houses, *in toto*,

73.

Besides these, there are surveyed under the Titles of several Owners of Lands *sparsim* through the Book, as under the Title *Terra S. Dionysii*, *Ecclesia S. Martini*, and others, according to my best Computation and Observation,

82.

Besides these under the Title of the Possessions of *S^t Peter of Glouc'*, there are reckoned up as many *Burgenses* as yielded the Abbot anciently the Rent of 19^s and 5^d, and 16 Salmons; but at that time 16 Salmons and 50^s Rent, without any certain number of Burgesses; but if we allow 6^d for a Burgess, we may suppose them to

100.

The Total 255.

The Mannor of *Barton*, or the *Barton of Glouc'*, some part whereof hath been taken into the Suburbs of *Glouc'*, was of two Owners; part was the King's Lands, part belonged to the Abbey of *S^t Peters*, but the whole number of the Housholders inhabiting the whole *Barton*, with its members, *Tuffly*, *Barnwood*, &c. were as followeth,

Villani ————— 56

Bordarii ————— 39

Servi ————— 19

Molini ————— 04

Liberi homines — 10

In toto ————— 128

And the Total of the whole Account of the City of *Glouc'*, the *Barton* with its members; *Brewere*, *Upton*, *Merwin*, *Barnwood*, *Tuffly*, *Norwent*, amounted then only to

383.

And the single City of *Gloucester* within the Walls contains at this day near 1000 Houses and Households.

Again, the Borough and Mannor of *Barclay*, with the members thereof enumerated in *Doomsday*, viz. *Alkington*, *Hinton*, *Cam*, *Gosington*, *Dersiloge*, *Cowly*, *Emly*, *Nimsfield*, *Wotton*, *Simondshall*, *Kingscote*, *Bevercote*, *Osetword*, *Almondsbury*, part of *Cromhall*, *Harefell*, *Weston*, *Elberton*, *Cromale*, *Erlingham*, *Escelword* are surveyed to contain in the whole to 590 Families, whereas at this time there are near 5000 Families in this Precinct; the Parish of *Wotton* yielding upon the point of 2000 Communicants, and that of *Dersilege* above 500 at this day.

Again, *Tetbury* and the Hamlet of *Upton* belonging to it, the Survey of *Doomsday* gives us an Account of about 73 Families of all kinds belonging to it: But now I believe there are little less than 1500 Communicants in that Parish.

Sodbury:

Sadbury: the Survey gives us an Account of about 46 Families of all sorts; they are now near twenty times so many.

Thornbury, with the Hamlets thereunto belonging: the Account of *Doomsday* is of 105 Families of all sorts; there is now near six times so many.

Alderly, a little Village at the time of making of that Survey, consisting not of above 17 Families of all sorts; now above twice as many.

The like Instances might be produced, with the like evidence of very great Increases in the Towns of *Cirencester*, *Minchin*, *Hampton*, *Feuxbury*, *Campden*, *Winchcomb*, *Avening*, *Westbury* near *Bristol*, and generally through the whole County of *Gloucester*; which I do not without just reason suppose hath more than twenty times the Inhabitants which it had at the time of the coming in of *William* the First, which is not now above 604 Years since.

And if we should institute a later Comparison, *viz.* between the present time and the beginning of *Queen Elizabeth*, which is not above 112 Years since, and compare the numbers of Trained Souldiers then and now, the number of Subsidy-men then and now, they will easily give us an Account of a very great Increase and Multiplication of People within this Kingdom, even to admiration.

And let any man but consider the Increase of *London* within the compass of 40 or 50 Years, we shall according to the Observations framed to my hands find, That the In-Parishes until the late Fire in that time have increased from 9 to 10, or a 10th part; and that the 16 Out-Parishes have in that time increased from 7 to 12; and yet without any decrement or decay of the rest of the Kingdom.

By which, and infinite undeniable Instances that might be given, it is apparent, that within the compass of the last 600 Years this Kingdom hath increased mightily in its number of Native Inhabitants.

And yet it is most apparent, that it hath had as great Allays and Abatements of the Multiplication of Mankind in it, as any Kingdom in the World. For Instance,

1. In respect of the nature of its Situation, which is all Maritim, and consists much in Navigation, which exhausts abundance of People by Diseases and Casualties at Sea.

2. It hath been as often visited with sore Pestilences, Epidemical Diseases, and Mortality by reason thereof, as any Country: the experience of the last 60 Years gives us abundance of Instances thereof, and former Ages were as frequently visited in this kind as later.

3. Foreign Wars, both at Sea and Land, have devoured great multitudes of our Inhabitants; as those formerly with *Scotland*, *France*, *Spain*, and lately with the *Netherlands* and *French*.

4. No Kingdom in *Europe* hath had greater Experience of Civil Wars, nor greater Consumption of Men thereby, than *England* hath had since the time of *William* the First: For not to instance in our Wars with the *Welsh* and *Irish*, let any man read but the Histories of the Wars here in *England* between King *Stephen*, and *H. 1.* and his Mother, King *John* and his Nobles, King *H. 3.* and the Nobility; between King *E. 2.* and the Earls of *Lancaster* and *Mortimer*; the Wars between the two Houses of *York* and *Lancaster*, and their Partizans, from the time of *H. 4.* unto the begin-

beginning of *H. 7.* in one Battel between *H. 6.* and *E. 4.* killed of one side 30000; the Rebellions in the times of *H. 7.* and others the Kings and Queens that succeeded him, and the loss of many lives that happened by the suppression thereof; the late cruel Wars within these 30 Years last past in *England*; there cannot be Instances given in any one Kingdom of greater Abatements of the Increase, by Wars and Internecions, than may be given in *England*.

5. Let us also consider the vast Evacuations of Men that *England* hath had by Foreign Assistances lent to Foreign Kingdoms and States, by Volunteers and Auxiliaries; as, to *Scotland* in the late Queens time, to *France*, to the *Netherlands*, to *Germany*.

6. To these also add the vast numbers of Men that have transplanted themselves not only into *France*, *Holland*, and our neighbour Nations, but also to *Virginia*, *Maryland*, *New England*, *Barbadoes*, *Bermudas*, to *Ambeyna* and other places in the *East India*; and lastly, into *Jamaica*; we shall find upon these and other Accounts; that *England* hath had as great Correctives of the Excesses of their Generations within these last 600 Years, as any People in the World.

Add to these the great Famines and Pestilences which have happened within the compass of 600 Years, recorded in History, and obvious to our own Experience.

And therefore, if notwithstanding all these Correctives the number of Men have continually increased, and that in so vast and observable a degree above their decrease; we have as much reason to conclude a parity in the rest of Mankind: and possibly were we as well acquainted with the Concerns of other Kingdoms or States, especially of the *Netherlands* and *France*, the Instances of this Increase would be as much, and possibly more conspicuous than among us.

Upon the whole matter therefore I conclude, That as the Correctives instanced in the last Chapter are not in themselves likely to be sufficient and futable to the Reduction of the Increase of Mankind to an Equability, especially in an infinite succession of Eternal Generations: So by plain Experience it is apparent and sensible, that *de facto* they have not done it in a finite limit of Ages; but Mankind have notwithstanding them increased every Age, and the multitude of them that are born and live, over-balance the number of them that dye, *communibus annis*; or being taken upon a *medium*, though possibly some one Year gave the advantage of Number to the Descendents, yet it is not common nor ordinary, but more than two or three Years for one give the advantage of Number to them that are born and live.

C A P. XI.

The Consequence and Illation upon the Premisses, against the Eternity of Mankind.

THe great Assertors of the Eternity of the World and of Mankind, have certainly gathered their Opinion principally from this, That they find that Mankind is propagated by ordinary course of Generation, and

and this they see by Experience : And as they do so now, so they did a hundred or a thousand Years since, and as far as those Histories they credit give them account, it was so in those times, and in the times before them, as far as Tradition could instruct them. And although those various Occurrences of Wars, Pestilences, Migrations, Floods, Changes of Religion and Languages have obscured the Histories, Relations and Traditions of former times before those Histories that are extant; yet they think it becomes them, as reasonable Men, to believe that things have been always so as now they are, and that it were a fondness to suppose or believe things to be otherwise than they have appeared in the tract of all Times or Ages.

And upon the same ground that these Men assert the Eternity of the World, the Instance and Argument now produced of the plain and experienced Increase of the numbers of Men upon the face of the Earth, seems much more forcibly to conclude against that supposed Eternity of Mankind. For it is plain and evident to Sense, that the World grows every day fuller than formerly, notwithstanding all those Correctives and Reductives thereof: And we have reason to think it is so in all places, at least one with another, and in all Ages, and among all People as we find it in *England* for these 600 Years, or among the People of the *Jews* for above 2000 Years: For among these People, and in these Periods of Time there have been as many and as great Diminutions and Abatements as ever were in such Periods of Time: and yet though perchance in one Age they have diminished, yet they have not been so diminished, but that in the compass of four or five hundred Years their Increase above what they were before such Diminution, is upon a *medium* always exceeding their Decay.

And since we have reason to believe what we see, namely, the Excess of Generations above their Decays, we have reason to believe it was so always; and if it were so always, it is not possible the Generations of Mankind could be eternal.

For if we should suppose the Eternity of the World, an Increase of but one Man in the Period of Millions of Years would have filled more space than all the Earth or the Concave of Heaven could receive: For in as much as in a Duration that never had a Beginning there must needs be infinite Millions of Years, the Increase of one Man in every Million above what was before, must needs produce an infinite coexisting number, and an infinite *moles* of Mankind; much more if the Increase were in any measure proportionable to what our daily Experiences give us Instances of. Whereby we find, that although it be possible that several Families may be wholly extinct in a Kingdom in the Period of 5 or 600 Years, and though possibly in some one Age there may be a diminution of the People of a Kingdom from what they were in the Age before; yet in the succession of a very few Ages they again increase beyond the diminution, and neither successively decrease, nor hold an equality; which we may reasonably suppose to be the common condition of the World.

And as to that Supposition, That even upon a Natural account, when the World grows too full of Inhabitants, they must break the Bonds of Society and Peace, and so diminish each other by Internecions and Wars.

Wars. As Air compressed, or expanded beyond the measure of the Vessel containing it, breaks the Vessel wherein it is compressed to give it self room. I shall only say, that although the Pride and Ambition and Insolence of neighbouring Princes or People; or the sense of too much Oppression and Hardship hath many times raised Wars, yet we never knew Wars to grow meerly upon the account of the Fulness of any Country: indeed that Plethory hath many times occasioned Emigrations, and Transplantations, and Navigation, and increase of Trade or Manufactures and other industrious Employments; but Wars have always grown upon other Occasions: though, as I before observe, the great, wise, and intellectual Governour of the World hath by his over-ruling Conduct of the Passions of Men, brought about ends for the convenience and benefit of Mankind in this respect also; as well as to punish their Excesses and Enormities.

C A P. XII.

The Eighth Evidence of Fact proving the Origination of Mankind, namely, the Consent of Mankind.

I Come now to the Eighth and last Evidence of Fact, proving the Origination of Mankind, namely, The general Consent of Mankind in that Perswasion; wherein I shall pursue this Order:

First, to consider the more Popular or Vulgar Opinion of Nations in all or most Places and Ages of the World, agreeing in this Sentiment or Perswasion, and what may be reasonably concluded of the truth, or at least great probability of the truth of that Supposition of the Origination of Mankind, upon the Supposition of such a Consent. Secondly, to consider the more restrained Perswasion of the Learned and more considerate sort of Men, that guided themselves in their Sentiments not barely upon Popular or Vulgar Opinions, but searched deeper into the Reasons and Evidences of things; namely, the learned Tribe of Men, Physiologists and Philosophers: And then I shall also consider the several Suppositions of those that agreed in that Perswasion touching the several Manners and Methods of such Originations, and wherein their several Suppositions seem to be deficient, insufficient, or untrue.

First, touching the National or Popular Opinions touching the Origination of Mankind.

There hath prevailed among the generality of Mankind a common Perswasion, that Mankind had an Original *ex non genitis*; and those Nations that pretend to the greatest Antiquity, suppose themselves to be *Terrigenæ*, or at least by some other Method than the ordinary course of Generation.

Kircherus in his *Oedipus Aegyptiacus*, Syntagm. 3. Cap. 1. out of *Maimonides* gives us an Account of the *Zabei*, descended from *Cush*, and inhabiting the Coast of the *Red Sea*; that though they held the World eternal, yet supposed the first Man *Adam* to be begotten in the Moon, of a Father and

and Mother, and from thence he came into this lower World, and was called *Apostolus Lune*, and taught Men to worship the Moon: and for this he cites *Maimonides*, l. 3. cap. 29. though the late Translation mention nothing of his proceeding from the Moon, but of his coming out of *India* into *Babel*, and teaching Men the Worship of the Moon: this Fable the *Rabbi* confutes. *Diodorus Siculus* gives us an Account of the Opinion of the *Egyptians*, lib. 1. cap. 2. who though they pretend a vast number of Years to have passed since the Origination of Mankind, yet they suppose it had an Original; *Et ab orbis initio primos homines apud se creatos*: and they infer it from the Fertility of their Soil by the Inundation of *Nilus*, which at its recess leaves so fruitful a Tincture, that thereby and by the heat of the Sun, Animals have their visible production, part after part: And yet both *Aristotle*, l. 2. *Meteorom.* and *Herodotus* in *Euterpe* do with great probability evince that the fruitfulest part of *Egypt*, namely, the part called *Delta* where the *Nile* overflows, is an Exaggeration, or Ground gained by the Inundation of *Nilus*.

Herodotus, *ubi supra*, tells us, That in the time of *Psammiticus* sometimes King of *Egypt* there was a Competition between the *Egyptians* and *Phrygians*, who were the first People, or the *Terrigena*, and that by the Experiment of the Education of two Infants which should not be instructed, by their Natural Speech in the Language of *Phrygia*; the *Phrygians* carried the priority. The thing is fabulous, all the use that is to be made of it is, That there was a common Opinion in the Nations of the World, that there was some Inception of Mankind otherwise than by the way of Natural Procreation.

Laertius, in *Proœmio*, supposeth the *Grecians* to be the first Men, *A quibus nedium Philosophorum, sed hominum genus initium habuit.*

The above named *Diodorus Siculus*, lib. 4. cap. 1. tells us that the *Ethiopi*ans claim a greater Antiquity than the *Egyptians*, who borrowed many of their Laws and Customs and Religion from them: that as *Ethiopia* was the fittest and most congruous place for the first Production of Men and Beasts, in respect of the vicinity and constancy of the Sun; so, *de facto* the *Ethiopi*ans were the first Men that were on the Earth, and *Terrigenæ*. *Ferunt, Æthiopes primos hominum omnium creatos esse; cujus rei conjecturam ferunt, quod non aliunde homines in eam accesserunt, sed in ipsa geniti merito Indigetes omnium consensu appellentur. Et quidem verissimile est eos qui sub meridie habitant primos à terra fuisse homines genitos; nam Solis ardore terram qua humida erat arefaciente, atque omnibus vitam dante, decens fuit locum Soli propinquiorem primò naturam animantium tulisse.*

De Laet in his History of the Original of the *Americans*, pag. 178. tells us of the Perswasion of divers of the *Americans*, that held there is one God; *Qui omnia creavit, dein plures in terram defixerat sagittas, è quibus hominum genus ortum & propagatum fuit*: though they also held other inferior Deities: And Pag. 106. *Alii narrant, è quadam specu per fenestram exiliisse sex aut nescio quot homines, eosque initium dedisse humano generi in loco qui ob eam causam dicitur Pacari rampo; atque ideo opinantur Tambes esse hominum antiquissimos. Vide Acoft. l. 1. cap. 25. ad idem.*

Thus it seems there hath been in all Nations, that have had any manner of Order among them, a common Opinion of the Origination of Mankind; though they have dressed up the Supposition with various Fictions

and Imaginations no less vain than the Poets, who supposed Men to grow of the Serpents Teeth sown by *Cadmus*, or the Stones thrown over their Heads by *Deucalion* and *Pyrrha*.

This perswasion and opinion of Mankind of their Original, might be conveyed to the generality of Nations by some of these ways:

1. By some Tradition, derived down unto them from those that lived before them; but then if we look after the original or first head of this Tradition, it may be hard positively to define from whence it began; but it seems probable, that it was from those first Parents of Mankind, and so the Tradition founded in the Truth of the Fact, and originally delivered by them that perfectly knew it to be so: It is true, there are, and have been very many things entertained as true by Traditional Derivation, which either have not any sufficient evidence of their Truth, or it may be some things that do oppose the credit of it; and it were a piece of vain credulity to believe every thing, that either vulgar Tradition, or the Artifices of Men, have imposed upon over credulous succeeding Ages and Persons: And we see, that as the Origination of Man hath been traditionally received, so those Adjuncts and Fables with which it hath been dressed up, have been also received and believed with it. But to this I say:

1. That the Origination of Man, as a Matter of Fact, could hardly be thought of, but either by very considering and thinking Men, whereof hereafter; or by such, as being the first Parents of Mankind, knew their Original. And if it be said, they could no more know their Original than a Child new born: It is true, if the Production of Mankind were such at first as it is now, or as some of the mistaken Heathen thought it, (*viz. in Infantia*) it may be so: But we shall see, that if Mankind had their Original *ex non genitis*, (as most certainly they had) then the Formation of Mankind was in his full and perfect Constitution, and not by a gradual progress from Infancy as now.

2. That the Tradition of the Origination of Mankind seems to be universal, but the particular Modes or Methods of that Origination, excogitated by the Heathen, were particular, and not common; and therefore, though these be fabulous and deserve not our credit, yet they do not abate the credibility of the universal Tradition. The common Tradition and consent thereunto of the Existence of a Deity, carries in it a great moral Evidence of the Truth thereof, although the particular superadditions and multiplications of Deities, by the Fancies and Traditions of particular Ages or Nations, are fabulous and untrue: *Quod ab omnibus ubique & semper creditum est pro veritate habendum est*, though the various particular Modes, and Methods, and *Hypotheses*, are or may be fabulous.

3. That Mankind had an Original might be known naturally, and without a Revelation to the first Individuals of Humane Nature, and consequently might with evidence and certainty enough, even upon a moral account, be communicated by them to others, and so pass into an universal Tradition: But the Manner of the first Production of Men, what gradations were antecedent to it could not possibly be known to the first Parents of Mankind without Divine Revelation, because it must needs be antecedent to their Being, and therefore the particular Manner thereof

thereof could not, upon a bare natural or moral account, be any true Root or Foundation of such a Tradition, as according to the *Mosaical Hypothesis* of the Origination of Mankind, whereby we understand that *Adam* was created out of the Dust of the Ground, and then had an Intellectual Soul put into him; *Adam* might upon a natural account know that now he was, and that before he was not; and he might upon a rational account know, that such a Production of such a Being as he found himself to be, could never have been effected without the agency of a most powerful and wise Being, which we call Almighty God: And this Tradition, both that he was made when before he was not, and that he was created or made by Almighty God, he might with as great evidence and certainty traditionally communicate to his Descendents, as any other matter of fact, or rational deduction: But he could never know the manner of his own Production, or the particular Preparations antecedent to such his Being, without Revelation from God, or some intelligent Being that saw or knew the antecedents to his Constitution; neither could he without such Revelation or Discovery, deliver the same over traditionally with any certainty of truth to his Descendents. And consequently, the general Tradition of his Origination hath a Root of Credibility in it, to such a Man as will believe that any matter of Fact may be true that he sees not; though the particular manner of his Origination is not with any certainty credible to him, that either believes not there is any Divine Revelation, or that believes not the particular Method propounded is in truth a Divine Revelation.

So that the general Tradition that Man had his Origination *ex nungentis*, is a greater Evidence that it was true, than that he was made out of Arrows stuck in the Ground; or, *ex folliculis terre immanibna*, as some Philosophers.

2. The Ground of this Perswasion hath sprung from such of the Philosophers, and other considerate Men, who upon a strict Enquiry and Examination have found it impossible that the successive Generations of Mankind could be Eternal, and consequently Infinite; and therefore have concluded with very great evidence of Reason, that it must needs have some other Origination in some one Period of duration, than what is now natural and common. But then being destitute of Divine Revelation, or at least not giving due credit thereunto, and being greatly in the dark, and not knowing well how to determin what that Method of the Origination of Mankind should be, some took up one Fancy, some another, to save the *Phænomenon*, according as their Imaginations led them. And hence it was, that some thought their Origination was not altogether unlike the spontaneous Production of Insects; only these being Annual, required no great contribution of Heavenly Influences; but that of the Production of Men or more perfect Animals, *Non sine magna celestium corporum conjunctione sive mutatione*: Others again, more soberly attributed it merely to the Power and Wisdom of the glorious God: Others, to the efficiency of Angels; whereof in the next Chapter.

And this Contemplation of such Philosophers and knowing Men coming abroad into the World, the generality of Mankind subscribed to the truth of the grand *Hypothesis* it self; namely, That Mankind had at one time or other, or by some means or other an Origination differing

from the ordinary and natural method of Propagation now observed : And finding that the same held a singular congruity to the nature of things, and the general Conception and Reason of the Humane Understanding; the generality of the World entertained, and by Tradition transmitted this *Hypothesis* to their Posterity.

But finding the Philosophers and Wise Men so uncertain and disagreeing, *de modo*, and unable to give any satisfactory Resolution thereof; every Nation, and almost every Person took up what particular *Hypothesis* pleased them for the Method or Manner of such Origination; and herein the Wantonness of Poets, and the Crafts of their Heathenish Priests and Hierophants abundantly gratified the Fancies of the People with Superfictions and Inventions of their own.

And indeed it is observable, that all those ancient Traditions of things that were truly done, and so delivered over and received by Mankind, as they have for the substance and main of them been preserved by the strength of this Tradition; so where the Holy Scriptures have not been taught or known, these Traditions have been admirably dressed by Sophistications and Superadditions, introduced by the Phantasies of Poets or the deceits of Heathenish Priests, or by the gradual corruptings of the Traditions themselves. Thus the History of the Creation, of the Flood, of the Tower of *Babel*, of *Noah* and his three Sons; many of which are, for the substance of them, preserved among the Barbarous People of the *East* and *West Indies* at this day, as appears by those that have written the Relation, especially of the *Americans*, as *Acosta* and *De Laet*, have nevertheless been covered over with divers fabulous and devised Additions and Stories: and so it happened also among the ancient Heathenish Writers, as hath been at large demonstrated, especially by *Bochart* in his *Phaleg*.

Now as touching the Opinion of the Learned Tribe, which, as before is shewn, fell into two Parties: The one holding the Eternal Successions of Mankind; whereof in this Second Section: The other holding a First Inception of Mankind, *Ex non genitis*.

The latter Opinion far out-ballanceth the former, both in the reasonableness thereof, and the multitude and great Learning of those that so asserted it; and should, according to the propounded Method, be here declared.

But because I intend in the next Section to examin the various Suppositions of those of the latter sort, touching the Manner of the Origination of Man, I shall reserve that Business to the next Section; wherein I shall at once consider the Learned ancient Authors that hold the Origination of Mankind, and shall also deliver and examin their several Suppositions touching the same.

SECT.

S E C T. III.

C A P. I.

The Opinions of the more Learned part of Mankind, Philosophers and other Writers, touching Man's Origination.

I Have in the former Parts of this Enquiry shewed, that there have been among Philosophers and other Heathen, and some modern Writers, Two great Opinions touching Man's Origination: 1. Those that thought it indeed to be without any Origination, but Eternal; and this Opinion they took up principally upon two Reasons: 1. Because the *Medium* or Clew by which they guided themselves, was the common, constant Method of Productions by successive Generations; and they thought it more sutable to take their Measures, and make their Conclusions consonant to the course of Nature, which they saw and observed, and judged to be always uniform, and like it self; which could not be such, if Mankind had any other Method of Origination than now it hath: And in Natural Appearances, Causes and Effects, they thought it not becoming the *Genius* or Spirit of a Philosopher to call in any other Assistant or Producent than what was and is the ordinary Rule, Course, and Law of Nature as they now find it. And by this means they thought that they proceeded consonantly both to Nature, and to themselves. 2. Because that among those ancient Philosophers that either supposed the Origination of Mankind to be either casual, as *Epicurus, Democritus, &c.* or to be natural, from the Earth, and conjunction of the Influences of Heavenly Bodies in some Periodical Aspects; or partly natural, and partly fortuitous, or at least spontaneous, as Insects arise: I say, in and among these various Suppositions of an Origination of Mankind (yea and perfect Animals) *ex non genitis*, they found so much uncertainty, improbability, and repugnancy, that they threw them all aside, together also with the Beginning or Origination of Mankind; and took up that more compendious, and more sutable, as they thought, to the Laws which they observed in Nature; and concluded, That the Generations of Mankind and of perfect Animals were without beginning, but always obtained in the same manner as now they are. Of this Opinion was *Ocellus Lucanus*, and likewise *Aristotle*, though in some places he seems to be doubtful, and although *Plato* in his *Timæus* seems to assert an Origination of Mankind, yet in some other places his Expressions are doubtful: and therefore *Censorinus* in his golden Book *de Die Natali*, reckons as well *Plato* as *Aristotle, Ocellus Lucanus, Architas Tarentinus, Xenocrates, Dicearchus, Pythagoras, Theophrastus*, to be Assertors of the Eternity of Mankind.

And this Opinion I have examined in the Chapters of the Second Section of this Book, and offered Reasons Physical, Metaphysical and Moral against it. The last Moral Reason which I offered was, The
received

received Opinion of Mankind asserting the Origination of Man, and that as well of the common sort of People as of the Tribe of the Learned Philosophers.

The former I dispatched in the last Chapter, but the Suffrage of the *Gens literata* I reserved to this Section, because thereby at once I may with the same labour shew the Opinions of Learned Men among the Heathen, asserting the Origination of Mankind, and what their several Sentiments were concerning the manner of it: And therefore I shall be constrained herein to mention the Opinions of some of those Learned Philosophers above-mentioned, and to add some others of the contrary Persuasion, which out-balance the former.

2. The second general Opinion, was of those Learned Philosophers that held an Origination of Mankind *ex non genitis*; and the Reason moving them to this Persuasion was, not only the great Tradition that obtained generally in favour of it, and the great reasonableness of the Supposition it self; but also the many absurd Consequences, and indeed irreconcilable Contradictions that they found in the *Hypothesis* of an Eternal Succession of Humane Generations without beginning: Insomuch that the Assertors themselves of Eternal Generations were doubtful of the truth of their own Persuasions, as will hereafter appear.

And those of this latter sort were even *Epicurus* himself, *Anaximander*, *Empedocles*, *Parmenides*, and *Zeno Citicus* the great Founder of the Sect of the *Stoicks*, with those that followed or favoured it. But above all, the great Law-giver *Moses*, who was divinely inspired; and yet if he had not that advantage of Divine Infallibility, but stood barely upon the great credibility both of his Person, his Learning, and the *Hypothesis* it self which he delivered, he hath as great a weight, even upon a natural, moral, and rational account as any, or all the rest put together. But because I intend a particular Explication of the *Hypothesis Mosaica*, I shall not mingle this among the other Opinions, but reserve it for the next Section.

The Heathen Philosophers that held the Origination of Mankind *ex non genitis*, have these things in general wherein they agree one with another, and with the Truth it self; and some things wherein they differ among themselves, and in some things from the Truth.

1. They herein agree both among themselves, and with the Truth, and with that excellent and divine Relation of *Moses*, *Gen. i.* That Mankind is not Eternal, but had a Beginning *ex non genitis*.

2. They herein also agree among themselves, and with the Truth, That it is most absolutely necessary (if Mankind had a Beginning or Origination) it must needs be in a differing kind and manner from that common course whereby Mankind is now propagated. This is asserted by those that hold the Origination of Mankind by the Efficiency of Almighty God (consonant to the *Mosaical Hypothesis*) either immediately, or partly by the Instrumentality of Angels, as *Zeno Citicus*, *Plato* and others: it is also asserted by them that hold the Origination of Mankind to be at first fortuitous, as *Epicurus* and *Democritus*. And therefore as to these Persuasions and Suppositions, it is not only necessary that they should suppose a differing manner of the first Origination of Mankind from what now obtains; but it is consonant also to their Principles, and the grounds of their

their Supposition that it must be so: This is also asserted by those that suppose the Origination of Mankind to be purely natural, and according to the constituted Rule of Nature. But yet this Supposition, though most necessarily true where an Origination *ex non genitis* is once supposed, yet it seems less suitable to the Principles of those Men that assert such a natural Production of Mankind as is by them asserted, because they mancipating all Productions and Effects to the Laws of Nature, and governing their thoughts, and taking their measures barely by it, have no reason to think or believe any other Method of Production of Mankind to have at any time been any otherwise than as they see it now to be; which, as is before shewn, was the reason why *Aristotle* inclined to the Opinion of the Eternity of Humane Generations, because Nature is presumed to be consonant to it self, and always to have been what once it was.

3. But in the Explication of the Cause and Manner of this Origination of Mankind, therein they differed very much among themselves.

This difference consisted principally in two great Considerations;

1. In the true stating of the efficient Cause of this Origination of Mankind: 2. In the Manner, Method, and Order of such Origination.

As to the difference touching the Cause of such Origination, and the nature of that Cause thereof:

1. Some assigned a bare fortuitous Cause of the first Origination of Mankind, as *Epicurus*, and his Explicator *Lucretius*; for although in some places they are driven to assert some determinate *Semina* of Mankind and perfect Animals, to avoid that indefinite and unlimited excursion of Atoms; yet they that suppose these *Semina*, do suppose a fortuitous Coalition of Atoms to the Constitution of these *Semina*, and so upon the whole account it is fortuitous.

2. Some assign a natural determined Cause of the first production of Mankind, namely, the due preparation of the fat and slimy Earth after a long incubation of Waters, and some admirable Conjunction of the the Heavenly and Planetary Bodies, in some certain Period of Time at a long distance from us; which as naturally and necessarily produced the first Couples of Mankind, and likewise of other perfect Animals, as necessarily and naturally as the return of the Vernal Sun produceth divers sorts of Insects, which though they are called *sponte orientia*, yet they arise merely from a Connexion of Natural Causes, and the various Ferments and Dispositions of the Elementary, and Positions and Influxions of the Heavenly Bodies: Thus some of the Ancients, and also *Avicen*, *Cardanus*, *Cæsalpinus*, *Berogardus*.

3. Some of the Ancients, that most truly assign the Origination of Mankind to the most High, Intelligent, Powerful, Beneficent Being, viz. Almighty God, and the *Beneplacitum* and *Fiat* of his Omnipotent Will; as *Zeno Citicus*. And thus their differences arose touching the Cause of this Origination.

As to the second, namely, the different Manner of the Origination of Mankind, *Censorinus ubi supra*, *Euseb. prepar. Evang. lib. 1. cap. 7, 8, 9.* and others give it as followeth.

1. The Opinion of *Anaximander*: *Videri sibi ex aqua terræque calefactos, exortos esse sive pisces, sive piscibus simillima animalia, in his homines crevisse,*

crevisse, fatúsque ad pubertatem intus retentos; tum demum ruptis illis, viros mulierésque qui jam se alere possent, processisse.

2. The Opinion of Empedocles and Parmenides: *Primò, membra singula ex terra quasi pregnante edita, & deinde coisse, & effecisse solidi hominis materiam, igni simul & humori permixtam.*

3. The Opinion of Democritus and Epicurus: *Ex aqua limoque primùm homines procreatos; viz. uteros limo calefacto radicibus terre coherentes primùm increvisse, & infantibus ex se editis ingegitum lactis humorem, natura ministrante, præbuisse, quos ita educatos & adultos genus hominum propagasse.*

4. The Opinion of Zeno Citicus, the Founder of the Stoical Sect: *Principium humano generi ex novo mundo constitutum putavit, primòsque homines ex solo adminiculo divini ignis, id est, Dei providentia, genitos.*

Ovid; though he were a wanton Poet, and his *Metamorphosis* full of Fictions, yet in the Description of the Creation he hath out-done many of the more serious Philosophers; and I believe was not only acquainted with the *Mosaical* History, but with most of those Writings that were extant in that time, containing the Origination of the World and Mankind; though he mingle his own Fancies with what he so learned: He gives us an account of the Origination of Man, *Lib. 2. Fab. 2.* and of other Animals, *Ibid. Fab. 8.* Of the former,

*Natus homo est, sive hunc divino semine fecit
Ille Opifex rerum mundi melioris origo,
Sive recens tellus, seductaque nuper ab alto
Æthere, cognati retinebat semina cæli;
Quam natus Iapeto mistam fluvialibus undis
Finxit in effigiem, moderantum cuncta deorum.*

Touching the latter, the Origination of other Animals after the Deluge, he gives an elegant Description, and from the Instance of the Productions after the Inundation of *Nilus*;

————— *Ex eodem corpore sapè
Altera pars vivit, rudis est pars altera tellus.*

So; after the Flood, by the moisture of the Ground and heat of the Sun,

————— *Tellus intulenta recenti
Solibus æthereis, altòque recanduit æstu,
Reddidit innumeras species. —*

As to the Origination of brute Animals, he seems to ascribe the same in effect as happens in the equivocal production of Insects.

But as to the Origination of Man, he seems to agree with the *Stoicks*, but gives thereof a fuller Explication; namely, 1. That it was a Seminal Production, and not so fortuitous as that of Animals. 2. That these *Semina humana natura* were either the immediate Productions of the great *Opifex rerum*, or at least were left in the Earth by the Celestial Nature, while it stood mingled therewith in *massa Chaotica*: By which means, it seems, he thought not that the production of Mankind was by

by a gradual process and maturation in the Earth, and from it, like the ordinary course of the Formative process *in utero matris*, in the ordinary course of Generation; but by a shorter and more compendious Method: For, according to the ancient Mythology, *Japetus* signified the Heaven, and *Japeti satus*, or *Prometheus* the Son of the Heaven, the Divine Providence which Almighty God exercised by the instrumentality of the Heavenly Motions: And the Ancients attributed the Formation or Configuration of the humane Body in its first original to this Divine Providence, whereby those Seminal Particles before described being taken and included in convenient Elementary Matter, the whole Composition was by the Divine Providence moulded up into the humane Shape and Consistency in its first Origination. This was that Notion that divers of the Ancients, and *Ovid* out of them had concerning the first Origination of Mankind; vide *Calium Rhodigin. l. 7. cap. 19, & 20.* and seems to have some analogy with that *Hypothesis* of *Plato* in his *Timæus*, hereafter mentioned.

Thus we have an account of the Opinions, 1. Of the *Pythagorean* Philosophers: 2. Of the old *Academicks*: 3. Of the *Peripateticks*, all seeming to agree in the Supposition of the Eternity of the World: 4. Of the *Epicureans*, under which I include that of *Anaximander* and *Empedocles*, differing only in the *modus*: 5. Of the *Stoicks*, which give a true Account both of the Origination of Mankind, and of the Manner of it; where I have been the longer, because it is a Key to all that follows, and gives us a Scheme of it.

These several Opinions, and the Authors and Assertors thereof, I shall here farther illustrate and examin.

1. Touching the Opinion of the *Pythagoreans*, because we have nothing extant of his writing, I can say little more touching his Opinion; though some suppose, he was not of Opinion that the World or Mankind was Eternal.

2. Touching *Plato*, it is true, he seems very various and Poetical in his writing; and by reason of the Method of his Discourses, by way of Dialogues, it is hard to determin what his Opinion was concerning the Eternity of the World, or of the Generations of Mankind.

In the beginning of his third Book *de Legibus*, but especially in the middle of his sixth, under the Persons of *Atheniensis hospes*, and *Clinias*, he intimates his Opinion of the Eternity of the World and Mankind: *Athen. Scire omnes oportet, hominum generationem vel nullum prorsus unquam initium habuisse, neque terminum habiturum, sed fuisse omnino semper & fore; aut si cepit, inestimabili ante nos temporis magnitudine incepisse. Clin. Planè.* And again, in his *Menexenus*, under the Person of *Socrates* commending the Country of *Attica*; *Altera ejus laus erit, quod eo tempore quo tellus omnia animalia omnigena producebat, feras & armenta omnia; tellus dumtaxat nostra ad hoc sterilis erat, agrestibusque animalibus vacua, propriè verò ex omnibus animalibus hominem genuit, qui ceteris intelligentia præstat, solisque jus ac deos colit.* And again, in his *Timæus*, in the Person of *Timæus* he gives us an Account of the Original of Mankind, and the manner of it, to this effect; That when Almighty God had made and set in order the great World, and endowed it with a living Soul, and thereby it became a great Animal; and had also made a sort of inferior Deities (*dii ex Deo*) and

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endowed them also with Immortality, he brings in the great God bespeaking these inferior Deities; *Accedite vos secundum naturam ad animalium generationem, ita ut vim imitemini meam, qua in ortu vestro sum usus. Atque ejus quidem animalis quod in ipsis tale futurum est ut cum immortalibus appellatione conveniat, divinumque vocetur, principatumque teneat, & justitiam simul ac vos ultro colat: Ego vobis semen & initium tradam, vos cetera exequi par est, ut immortalis natura mortalem attescentes, faciatis generetisque animalia, subministrantisque alimenta augeatis, & consumpta rursum recipiatis. Hæc fatus, in eodem cratere in quo mundi totius animam permiscens temperavit, superioris temperationis reliquias miscendo perfudit, &c. Satis autem & quasi sparsis animis, per singula singulis convenientia temporum instrumenta, fore ut animal nasceretur, quod omnium animalium maximè esset divino cultui debitum.*

Thus he now gives us an account of the Creation of Man, namely, of his Soul by the great God. Therefore *Plato* seems not to be reckoned among the firm Assertors of the Eternity of Mankind, nor of the World; and accordingly his follower *Proclus* herein agrees with his Master.

3. Touching *Aristotle*, and the *Peripateticks* that were his followers, as *Simplicius*, *Averroes*, and others (except *Philoponus*) their Opinion seems to be for the Eternity not only of the World, but of Mankind, and of the perfect Animals: so that in *l. 3. de Generatione Animalium, cap. 1.* he determines, *Quod non fuit primus leo, &c.* and in his way of reasoning follows *Ocellus Lucanus*, who was a more ancient Philosopher, and tenaciously asserted the Eternity of the World.

Yet *Aristotle* himself seems not to be over-confident of this Opinion, but holds it as a Problem, and in some places seems to give Intimations to the contrary. 2. *Politic. cap. 6.* *Putandum est primos homines sive ex terra geniti fuerunt, sive ex corruptione aliqua servati, ignaros fuisse, &c.* and in his 3^d *de Generatione*, upon the various Productions of the Earth and Water, *Ut anima quodammodo plena sunt omnia:* and in his 10th Problem, *sect. 15. Qui de natura differunt, animantia in principio orta esse dicunt ingenti aliqua mundi universique mutatione:* and in his 64th Problem of his 10th Section, *Quam ob causam animantium alia non solum coitu sed etiam sponte nature procreantur, alia ex coitu duntaxat proveniunt, ut Homo & Equus, etsi non ob aliam causam, tamen quod aliis gignendi tempus breve statutum est. Itaque fieri non potest ut tempus quod vim obtinet generandi amplificetur prorogeturque, sed temporum vicissitudine prorogationeque, ut prorogetur contingit; aliis multò generatio ampliari solet: etenim vel anno vel decem mensium spatio confici assolet; quo pacto vel nullo pacto, vel ex coitu procreari illa necesse est.* So that he attributes the reason of the new production of Men and great Animals only to the time that they are to be perfected in *utero*. And *l. 1. Topicor. cap. 11.* he states the Question, *whether the world had a Beginning, or not?* to be a Problem, wherein probabilities are on either side.

By these passages of *Aristotle* himself, he seems not to be so positive in his Opinion touching the Eternity of Mankind at least; but rather inclines to that for the Eternity of Generations; upon these Reasons: 1. Because he was not willing to suppose any other state of things in the World than what he found; and since he never found any production of Mankind, or the perfect Animals, *ex non genitis*, he therefore concluded them to have been ever produced in that method that he found them in the ordinary

ordinary and settled course of Nature. 2. Because, as he was not satisfied with the strange and improbable *Hypotheses* of *Empedocles*, *Anaximander*, and *Democritus* touching the Production of Mankind; so he could not excogitate any of his own which had any clearness or certainty to him, being utterly unacquainted (for ought we know) with the *Mosaical Hypothesis*. 3. Because he being a great admirer of Nature, and the ordinary proceeding thereof, he was not willing to entertain any such Supposition as was not evident, according to the ordinary method of Nature, which he so much venerated; especially such as might seem dissonant to his great *Hypothesis* of the Eternity of the general Frame of the rest of the Universe.

And therefore, *lib. 3. de Generatione Animalium, cap. 11.* upon a Supposition of a first Production of Men or Animals, he conforms his *Thesis* concerning them to his general Doctrine: *Quamobrem de prima hominum atque quadrupedum generatione (si quando primum terrigenæ oriebantur, ut aliqui dicunt) non temere existimaveris altero, de duobus his, modo oriri; aut enim ex verme constituto primum, aut ex ovo: quippe cum aut intra se habeant cibum ad incrementum necesse sit, qui quidem conceptus vermis est; aut aliunde accipere, idque aut ex parente, aut ex parte conceptus. Itaque si alterum fieri non potest ut effluat ex terra, quomodo cæteris animalibus ex parente, relinquitur necessario, ut ex parte conceptus accipiatur. Talem autem generationem esse ex ovo aut verme fatemur. Ergo si initium ullum generationis omnium animalium fuit, alterutrum de his fuisse probabile esse apertum est. Sed minus rationis est, ut ex ovo prodierint; nullius enim generationem animale[m] talem videmus; sed alterum tum sanguineorum quæ diximus, tum exanguium, qualia sunt insectorum nonnulla, & ea quæ testa operiuntur, de quibus agitur. Non enim ex parte aliqua oriuntur, ut ea quæ ovo nascuntur.* Thus he conforms his Position to his general Doctrine, upon a Supposition of the spontaneous Origination of Animals.

4. I come to the general Doctrine of the *Epicureans*, under which I include that of *Anaximander* and *Empedocles*, who though they differ something in the manner of their *Hypothesis*, yet they agree in the main for a kind of spontaneous production out of the Earth. 1. *Empedocles* seems to think that the Limbs or Members of Men grew here and there scattered and distinct, and that they were after concrete together by Heat and Moisture, into the stature, as it seems, of a full grown Man. 2. *Anaximander* thinks that they grew into the full stature of Men and Women in the *involutum* of something like Fishes, and then brake out into the World, as it seems, in their perfect stature. And that near unto this was the Opinion of *Anaximander*, appears by *Plutarch, in Placitis Philosophorum, l. 5. cap. 19. Prima animalia in humore nata corticibus contenta spinosis, adultiora autem facta ad siccitatem descivisse, ruptoque cortice non multum temporis supervixisse.* Only in the recital of his Opinion by *Censorinus* and *Plutarch*, they both seem to agree in this, that they were of full growth when they thus broke their Prisons. 3. *Democritus* and *Epicurus* seem to think that they were hatched in these *Folliculi* or Terrestrial Excrescences, and then nourished by a Juyce of the Earth, until they were able to shift for themselves. *Lucretius* hath given us the Doctrine of *Epicurus* in Verse, in his fifth Book, *Pag. 665.* which is rendred in Prose by *Gassendus, in Syntagmate Philosoph. Epicur. sect. 2. cap. 4.*

*Tum ubi terra dedit primum mortalia sæcla,
 Multus enim calor atque humor superabat in arvis;
 Hinc ubi quæque loci regio opportuna dabatur,
 Crescebant uteri terra radicibus apti;
 Quos ubi tempore maturo patefecerat atas,
 Infantum fugiens humorem, aurâsque petissens
 Convertibat ubi natura foramina terra,
 Et succum venis cogebat fundere apertis:
 Consimilem lactis sicut nunc semina quæque
 Quum peperit dulci repletur lacte, &c.*

And again, *Lib. 2. Pag. 265.*

*Denique cælesti sumus omnes semine oriundi;
 Omnibus ille idem Pater est, unde alma liquentes
 Humorum guttas mater cum terra recepit.
 Fæta parit nitidas fruges, arbutaque læta,
 Et genus humanum, &c. —*

And afterwards, in the same Book, *Pag. 281.* he gives us the reason why the Earth gives not the same Productions now.

*Fâmque adeo fracta est atas, effætaque tellus,
 Vix animalia parva creat, qua cuncta creavit
 Sæcla, deditque ferarum ingentia corpora partu.*

But although *Epicurus* and his followers suppose that small and imperceptible Atoms of Matter are the first *Principia* of all Corporeal things, yet he doth suppose that these *Principia* are first moulded into *Semina*, or *Seminales molecule*, which were the immediate Constituents of all compleat Bodies, whether animate or inanimate; whereby all things are contained and determined within certain *Species*. *Vide lib. 1. pag. 35.*

*At nunc seminibus quia certis quidque creatur,
 Inde enascitur, atque oras in luminis exit,
 Materies ubi inest quousque & corpora prima.
 Atque hac re nequeunt ex omnibus omnia gigni;
 Quod certis in rebus inest secreta facultas.*

Which *Gassendus* thus renders, *Sect. 2. Cap. 4. in Syntagmate Philosophiæ Epicuri*, having given us an account of the Concretion of the Heavenly and Elementary Bodies, he thus determines out of him concerning the smaller Parts of Nature: *De minus præcipuis & veluti partium particulis, videtur in prima illa commistione effecta fuisse generabilium & corruptibilium rerum, varia semina ex quibus res varia & conformata tum fuerunt, & deinceps magna ex parte propagari etiam potuerint.*

And this casual Production of Mankind at first was not only the Supposition of *Epicurus*, but also of the Egyptians and Phenicians.

Touching both, *Calius Rhodog. lib. 2. cap. 11. Phœnicum quidem & Ægyptiorum theologiâ, casu homines & reliqua animantium genera prorepisse è terra*

terra asseverebatur. And *Diodorus Siculus*, lib. 1. gives us a large Relation of the Opinion of the *Egyptians*, very like to that of *Epicurus* and *Anaximander*; wherein, after some declaration of the Manner of the first Separation of the Elementary and Heavenly Bodies, he proceeds to tell us, *Terram verò lutosam evasisse, & omnino mollem: Hic primum cum Solis ardore densior evasisset, ejus postmodum superficie vi caloris tumefacta, multis in locis humores esse concretos, in quibus putredines tenui contexta pellicula sint excitatae; quemadmodum in paludibus & stagnis Aegyptiis adhuc videmus accidere, cum frigidam terram subito aestus aeris calefacit. Cum verò in humidis calore adhibito generatio fiat, & noctu quidem circumfusus aer humorem præstet, qui die Solis virtute consolidetur: tandem putredines illæ ad summum perductæ, adveniente veluti partus tempore, exutis confractisque pelliculis, omne genus educunt animantium: quorum ea quæ majorem sortita calorem sunt, in superiorem regionem volatilia effecta abierunt; quæ verò plus terræ continebant, serpentina, aliæque terrestria evaserunt animantia. Naturam aquosam nata in sui generis elementum delata sunt, & appellati Pisces: Terra deinde cum Solis ardore, tum ventis deinceps arefacta, à gignendis majoribus animalibus desit. Sed quæ generata erant, mutua commixtione alios animantes procreaverunt. Hac & Euripides Anaxagoræ Physici discipulus sentire videtur, cum in Menalippo cælum & terram mixta olim fuisse tradat, separata postmodum generasse singula, arbores, volatilia, feras, aquatilia, & omne mortalium genus. De primæ terræ generatione quamvis præter opinionem nonnullis esse videatur, tamen ea quæ nunc sunt testimonium his videntur asferre. Nam juxta Thebaidem Aegypti, cum Nili cessavit inundatio, calefaciente Sole limum ab aqua relictum, multis in locis ex terra hiatu multitudo murium oritur: quod argumentum est ab ipso orbis primordio animantia similiter omnia generata esse. Eodem modo quoque & homines à principio genitos, in agris pastum querentes vixisse. And again, in his second Chapter of that first Book: Tradunt Aegyptii ab orbis initio primos homines apud se creatos, cum bonitate felicitatæque soli, tum propter Nilum qui & multa generat, & suapte natura quæ genuit facillimè nutrit: nam arundinum radices præbet, & loton & Aegyptiam fabam, multaque præterea ad hominum victum exposita. Prima animantia apud se esse orta ætutuntur conjectura, quod nunc etiam in Thebaidis agro certis temporibus multi & magni generantur mures; quæ ex re plurimum stupent homines, cum videant anteriorem usque pectus & priores pedes murium partem animatam moveri, posteriori nondum inchoata, sed informi. Ex hoc perspicuum fieri aiunt, ab ipso orbis ortu primos homines Aegyptum protulisse. In nullo enim orbis parte accidit eo modo animalia creari. I have transcribed it at large, as Eusebius did before me, Lib. 1. Præpar. because it contains a large and full Exposition of the Hypotheses of those Philosophers that thus suppose an Origination of Mankind, and that by a spontaneous Production.*

In these precedent Opinions of *Anaximander*, *Empedocles*, *Epicurus*, and the *Egyptians*, there is something that agrees with that Truth that I have asserted, namely, The Origination of Mankind *ex non genitis*. And for this purpose these Instances are especially given by me. But there is something that I shall in what follows impugn, namely, The Method or Manner of such Productions, which according to these Mens Opinions is either purely Casual, as *Epicurus* and his followers held; or at least Natural and Necessary, as *Anaximander*, *Empedocles*, and some of the loose passages of *Aristotle* seem to import, viz. by some great Conjunction of

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of the Heavenly Bodies, and some great Natural Mutation in the Elementary World.

5. I now come to the farther Examination of the *Hypothesis* of the *Stoicks*, who also agree in this main Truth, That Mankind had an Original *ex non genitis*: and the Founder of that Sect hath given a rational and true Method thereof, namely, That this Origination was by the Power and Will of Almighty God: But when those of this Sect came to give a more particular Explication of the Manner of this Production, they seem to differ.

Tully was generally well inclined to the *Stoical* Sect, yet sometimes he is a *Stoick*, sometimes an *Academick*, sometimes an *Epicurean*, and indeed in some of his Discourses which he hath digested in Dialogues, he seems to be every thing.

In his first Book *de Legibus* he hath this passage touching the Origination of Man: *Nam cum de natura omni queritur, disputari solent nimirum ista: perpetuis cursibus, conversionibus cælestibus extitisse quandam materiam ferendi generis humani, quod sparsum in terras, atque satum, divino auctum sit animorum munere. Nam quod aliquibus coherent homines, è mortali genere sumserunt, quæ fragilia essent, & caduca: animum esse ingeneratum à Deo: ex quo verè vel agnatio nobis cum cælestibus, vel genus vel stirps appellari potest. Itaque ex tot generibus nullum est animal, præter hominem, quod habeat notitiam aliquam Dei; de ipsisque hominibus nullagens est neque tam immansueta, neque tam fera, quæ non, etiam si ignoret, qualem habere Deum deceat, tamen habendum sciat. Ex quo efficitur illud ut is agnoscat Deum, qui unde ortus sit, quasi recordetur ac noscat.* By this he supposeth that there might be as it were a Prosemination of the Humane Fabrick by the Conversion of the Heavens, and then the same were stored with Souls immediately produced by Almighty God.

Seneca, following the received Opinion of the Vicissitudes of the Destruction of the inferior World by Floods and Conflagrations, and the Restitutions thereof by the Power of God, though he seems to admit Eternal Vicissitudes of such Making, and Unmaking, and Restitutions of the inferior World, in the latter end of his third Book of Natural Questions, before cited, *Sect. II. Cap. 9.* speaking of the Destruction of the World by Universal Floods: *Qua ratione inquis? eadem qua conflagratio futura est; utrumque fit cum Deo visum ordiri meliora, vetera finire: aqua & ignis terrenis dominantur; ex his ortus, ex his interitus.* And in the end of that Book: *Nec ea semper licentia undis erit; sed peractò exitio generis humani, extinctisque pariter feris in quarum homines ingenia transierant, iterum aquas terra sorbebit: natura pelagus stare aut intra terminos suos furere coget, & rejectus è nostris sedibus, in sua secreta pelletur Oceanus; antiquus ordo revocabitur, omne ex integro animal generabitur, dabiturque terris homo inscius scelerum, & melioribus auspiciis natus; sed illis quoque innocentia non durabit, nisi dum novi sunt.*

And with this seems to accord the Judgment of *Plutarch*, 2. *Symposiac. quest. 3.* and out of him, *Macrob. in 7. Saturnal. cap. ult.* where in the dissertation of that seeming ludicrous Question, *Ovumne prius an Gallina?* the Disputant for the latter concludes; *Natura primum singula animalia perfectà formavit, deinde perpetuam legem dedit ut continuaretur propagatione successio.* And *Plutarch*, *Probabile est primum ortum ex terra temporis perfectione*

fectione absolutum fuisse, nihilque indigentem hujusmodi instrumentis, receptaculis, & vasis qualia nunc ob imbecillitatem natura parat & machinatur parientibus.

This was the Sentence and Judgment of the *Stoical* Philosophers touching the Origination of perfect Animals and Men.

Upon all which foregoing Discourse it should seem, That the generality of the Learned World rather supposed an Origination than an Eternity of Mankind; and this upon two great Motives.

1. A Tradition which seems generally to have been derived unto Mankind from the first Parents thereof, and so generally believed and entertained.

2. A great congruity of Reason that attended this *Hypothesis*, and an extrication thereby of the Minds of considering Men from infinite difficulties which the Supposition of Eternal Generations doth necessarily produce.

I should now come to those Philosophers and Learned Men of later Ages, *Avicen*, *Cardan*, *Pomponatius Cisalpinus*, *Berogardus*, and others; which nevertheless I shall refer to the next Chapter to be examined to another purpose.

C A P. II.

Touching the various Methods of the Origination of Mankind.

Hitherto I have endeavoured to shew those Evidences both of Reason and of Fact, which seem to assert the Origination of Mankind; and I have concluded with that last in the two precedent Chapters, namely, The Opinion and Perswasion of the Unlearned and Learned part of Mankind that have supposed such an Origination of Mankind, the weight or authority of which rests in the consideration of those Means whereby this Opinion or Perswasion hath been ingenerated in Mankind: For the Opinions or Perswasions of Men, concerning especially a Matter of Fact, have their weight or authority in argumentation from that Principle or Motive of such a Perswasion: and this I have reduced to one or both of these:

1. Some Tradition that hath been derived, and derived in probability from the first Parents of Mankind, that best knew their own Inception, which hath since accordingly prevailed almost in all Places and Ages.

2. The congruity of such a Supposition to Reason, and the Solution of those Difficulties which must needs arise from an Eternal Succession of Mankind. And this Motive of this Perswasion, though it began with the more thinking and considering sort of Mankind, yet from them hath been insinuated and derived unto the rest of Mankind, and by them entertained, as consonant to the common Reason of *Humane Nature*.

I have laid the weight of my reasoning touching the Origination of Mankind upon the Reasons first given in the beginning of this Tract: and I have only subjoyned those Reasons of Fact that might probably bear testimony to the truth of the Supposition, and I have endeavoured

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to shew where the strength, and where the deficiencies of those Evidences of Fact do rest, and which are most concludent, and which not.

I have concluded all these Evidences of Fact, with this concerning the common or general consent of the greatest and learnedst part of Mankind therein; and I have concluded with this Evidence of Fact, not as if this were entertained by all: for 1. It is not without Opposers, as *Aristotle*, *Ocellus Lucanus*, and the *Pythagoreans*: and 2. Common Opinion or Perswasion of Mankind, especially touching Matter of Fact, is very fallible and unstable: 3. In this very Matter in question, there are by common perswasion of many of these Men, superadded certain fabulous, incredible and untrue Surmises touching the Manner and the Methods of this Origination, appearing in some of the Opinions delivered in the former Chapter.

But the reason why I conclude with that Instance touching the Opinions of Men, is, because it lets me in to that which is the Second principal Part of this Discourse, namely, The various *Hypotheses* of those that supposed, admitted, or believed this Origination, which are in effect all contained in the former Chapter, which I intend in the following Discourse to examin.

Therefore, having thus partly out of the common Perswasion of Mankind, but principally by the other foregoing Reasons made my Conclusion, That Mankind had a Beginning, now, as I think, delivered what may be said for the proof of this Proposition, That Mankind had their Original *ex non genitis*, and in some good measure established that Supposition; I now proceed to examin the truth or probability of those several Suppositions which are before delivered, touching the Means, Method or Manner of this Origination.

And not to examin every particular Adjunct or Explication of these several Methods, I shall divide these general Suppositions of the Ancients touching the Origination of Mankind into these three.

1. The Opinion, That the production of Mankind was *ex non genitis*, was fortuitous or casual; such was the Opinion of *Democritus*, *Epicurus*, and some others: the manner of the Explication thereof I shall hereafter consider.

2. The Opinion, That the production of Mankind was *ex non genitis*, was natural, and was founded upon a natural concurrence of Causes, especially the disposition of the Earth and Water, and the Influx of the Heaven. This was the Opinion of some of the Antients, but much improved by some later Philosophers.

3. The Opinion, That the production of Mankind *ex non genitis* was by the immediate Power, Wisdom, and Providence of Almighty God, and his meer *Beneplacitum*. This was the Opinion of the *Stoicks*, and differs but very little from the Divine Truth touching Man's Creation, as it is delivered by *Moses*.

And that which is said either for or against these Methods of the production of Mankind, will be also applicable to the production of the perfect Animals that have their ordinary production *ex conjunctione maris & feminae*, and not otherwise; though what is said concerning these Animals will be more evident touching Man, which is a far more perfect nature than other Animals.

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First therefore I begin with the Opinion of the *Epicureans*, which was in substance this; That there were eternally an infinite number of small imperceptible Bodies, that floated up and down in a vast infinite *Inane*; and these were the *Principia* of all other Beings beneath Almighty God: these they call Atoms. That those Atoms were eternally and casually moved in this infinite *Vacuum*, and by their mutual percussions the great Systems of the Heavenly and Elementary Bodies were framed and concreated: That besides that concurrence of Atoms that constituted the greater Integrals of the World, there was a certain coalition of Atoms that constituted certain *Semina* or Seminal Bodies, for the storing and furnishing the greater Integrals of the Universe, especially the Earth and Seas: That though the coalition of those *Semina* were casual, and by an accidental or fortuitous aggregation of some Atoms; yet these were the immediate, primitive, productive Principles of Men, Animals, Birds and Fishes, and that determined them in their several *Species*: That those Primordial Seeds thus fortuitously coagulated out of the *Prima principia*, or Atoms, were scattered by their Motion into the Earth and Seas: That by reason of the strength of the newly coagulated Bodies of the Earth and Water, and the heat of the Sun, these *Semina* did bring forth Man, and Brutes, and Birds, and Fishes; but that by the decay of the strength of the Earth and Waters, that Method of production of Men and perfect Animals is ceased, and their production now delegated ordinarily to Propagation: though in some places, and at some times, especially between the *Tropicks*, such a Pullulation of Men and Beasts may be supposed to be: That yet to this day the spontaneous production of some sort of Vegetables and Insects continues still in force, the Earth and Waters being furnished with a sufficient store of such *Semina* either of old or daily production; and with a sufficient strength, by the help of the Solar or Ethereal Heat, to perfect their productions: That the first spontaneous production of Men and the perfect Animals was in certain *Folliculi* or Bladders, excrecent from the Earth; and the growth of these Men and Animals gradual, being first *Embryones*, then grown ripe for Birth, then breaking out of those *Folliculi*, and furnished with nourishment from the Earth, *instar lactis*, till they were able to shift for themselves.

Touching this Supposition, although it contain in it that Truth that I have hitherto contended for, namely, That Mankind had an Original *ex non genitis*; or, That the Generations of Mankind in that order which now it holds, was not Eternal: yet the Manner or Method of this *Epicurean* Origination of the World, and particularly of the perfect Animals, but especially of Mankind, is merely fictitious, untrue, and impossible.

1. The *Principia* or Atoms of infinite number floating in *Vacuo infinito*, is a thing merely invented, and hath neither truth, nor evidence, nor probability in it.

2. The Motion of these Atoms in this great *Vacuum*, unless first excited or put into Motion by some intelligent active Principle, is fabulous and incredible.

3. The Coalition of these Atoms by fortuitous strokes or motions, and their Coalition into that admirable Order and Constitution which

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we see in the Universe, or greater Integrals of this *Mundus aspectabilis*, is utterly incredible, and indeed impossible. But these things being beside my present purpose, and deserving a large prosecution, I shall dismiss.

4. Touching these *Semina*, and the Coagulation of them by the fortuitous coalition of Atoms, they were driven to this Supposition, because they found themselves at a loss, if they should have supposed, that *per saltum* their Atoms had been the immediate Constituents of Men and Animals; they could never have salved that specification of things in their several kinds, and the continuation of them in that constancy and order which is evidently found in the natures of Men and Animals; but either there would be an utter uncertainty in the first Constitution of them, *quidlibet ex quolibet*; or at least it were impossible that they should continue their Propagation of their kind, but the constituent Atoms that should make up a Man; might have fallen into the Constitution of a Horse, or a Lion. *Lucret. ubi supra.*

*Atque hac re nequeunt ex omnibus omnia gigni,
Quod certis in rebus inest secreta voluntas.*

And again, *Lib. 2.*

*Non tamen omnimodis connecti posse putandum est
Omnia: nam vulgò fieri portenta videres,
Semiferas hominum species existere, —
Quorum nil fieri manifestum est, omnia quando
Seminibus certis certa genitrice creata.*

And again, it were never explicable by the various concurrence of Atoms, that there could be such an orderly, constant, and admirable accommodation of the parts of the Body to their use, or one to another. It is truly said by *Galen* in his 9th Book *De Hipp. & Platonis decretis*, l. 9. *Quippe cum artem raro sine suo frustrari, fortunam raro eundem assequi, nemo sit qui nesciat; quocirca temerariam & fortuitam, neque artificialem causam fabricæ nostri corporis existimare, absurdum.* And again, in that divine Book *De Usu Partium*, but especially *Lib. 11.* that excellent Philosopher shews the gross absurdity and impossibility that any happy concurrence of Atoms can ever fit and settle that congruity in the Parts of the Humane Body that is there. There needs no other Confutation of the vanity of that Opinion, than that excellent Expostulation in that Book, fit for the matter, but too long for the tenth of it to be here transcribed.

And therefore to avoid that insuperable absurdity, they have substituted a *Medium* between the Atomical Principles and the constitution of the spontaneous Birth of Men; namely, these *Semina*, made up to be the immediate Principle of these spontaneous Productions of Mankind, as also of perfect Animals in their first production.

What *Semina* there were in the first Constitution of Mankind, I shall have occasion at large to examin in the next Chapter: But at present it shall suffice to say and prove, That there is as great an absurdity and impossibility to suppose a casual production of such *Semina*, as there is to
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suppose an immediate casual production of any Man or Animal *omnibus numeris perfectum*.

For this *Seminiū humana naturæ* must have in it the Vital Nature, the power of attracting to it self that substance which must serve to make up the Individual: It must have the power and energy of that formative act, whereby the Matter is conformed to its specific Nature; it must have potentially at least the whole Systeme of Humane Nature, or at least that Ideal Principle or Configuration thereof, in the evolution whereof the complement and formation of the Humane Nature must consist; and besides this, it must have in it at least potentially all the Faculties of the Humane Soul, not only the *vim altricem*, but the *vim sensitivam & intellectualem*, and all this drawn from a fortuitous coalition of senseless and dead Atoms. Whereby these two grand Absurdities would ensue:

1. That a sort of dead, senseless, unintelligent Particles of Matter, should by their Coalition be advanced into a Being, that at least potentially hath all the Faculties of Life, Sense, or Intellect, and so arise to a perfection beyond the Sphere and Circle of their own Nature or Power.

2. That though it might be possible, that by skill and the wise conduct of an Intelligent Being, these Atoms might be so marshalled or qualified, that they might advance to be a fit *Seminiū* of a reasonable Creature, yet it is not possible to suppose, that meer Chance or Fortune should make up these Seminal Rudiments of the Humane Nature, because the Actions of this Seminal Principle must be so noble and high, and yet so various and complicated, so curious and choice, that it is never possible for Chance to make it up, and yet if the least *stamen* of this Composition be out of order, the whole office and use thereof is disappointed: And therefore the same *Galen* makes the *processus formativus fatus* to be no less admirable than the goodly structure of the Humane Body, and as impossible to be the work of Chance as the other: And therefore in his Book *de formatione fatus* he saith, *Ego vero, sicut fabricam nostri Corporis ostendi summam Opificis & sapientiam & potentiam præ se ferro; ita demonstrari à Philosophis velim, utrum is Opifex Deus aliquis sit, & sapiens & potens, qui & prius intellexit quale uniuscujusque animalis corpus esset fabricandum, & deinde quod proposuerat potentia fuerit assecutus; an Anima aliqua à Deo diversa. Neque enim natura quæ appellatur substantia, sive corporea sive incorporea ea sit, ad summum sapientia dicent pervenisse, quam ne ulla sapientia esse prædixit inquit, unde eam tam artificiose in fætuum formatione se gessisse credendum non est: Hoc enim ab Epicuro aliisque qui sine providentia omnia fieri opinantur audientes, nullam fidem adhibemus.* And in the Conclusion of that Book he as well blames the *Platonicks*, *Dicentes Animam mundi fætus formare: nunquam tamen adduci potui ut crederem Scorpiones, Phalangia, Musciss, Culices, Viperas, Vermes, Lumbricos, Pytalas ab eadem fingi & formari, prope ad impietatem accedere hanc opinionem ratus.* So far was he from thinking it possible for the Nobler Natures of Mankind, or perfect Animals, to be the work of the *Anima mundi* (much less of Fortune) that he could not suppose it a sufficient Cause of the Generation of Insects.

And besides all this, although a Man that hath received the Principle of Believing, that Almighty God might indeed *ad beneplacitum* mould up certain *semina humane naturæ*, and endue them with that admirable

Formative Power: Yet surely for a Man that (as *Epicurus* did) pretends to be guided by the Conduct of Nature only, to suppose a thing so strange to the nature of things, as they now appear, that there should be another kind of *semen humanum* or *animale* than what is moulded in the Bodies of Men or Animals, and elicited from them by a coincidence only of stupid, dead, and senseless Atoms, seems below the *Genius* of a Philosopher. *Oportet enim Physicam similiter se habere in omnibus.*

5. And as his Supposition of these *Semina*, thus casually produc'd, seems unconsonant both to the Reason and Course of Nature, so his Supposition of the Manner of the Generation, and Production, and Nourishment of this *Fætus*, seems a Fiction utterly inconsonant to the whole Method of Nature, in relation to Mankind: For what Person, or what Age or Country, ever saw any such kind of Production as this? any such *folliculi humani fætus*? Or that ever credibly heard of any Man conceived *nisi in utero muliebri*? abating some of those Fables that *Fortunius Licetus* delivers in his First Book, *cap. 28.* or such as have been begotten by an abominable conjunction.

Again, how is it possible, that an Infant, whose Nature cannot be kept alive one moment *sine calore uterino*, should be preserved in Bladders adhering to the cold Earth? Or that that Infant, who by the very course of Nature cannot be supported without the care and oversight of others for divers Months, nay some Years after his Birth, should be able *sub dio & Jove frigido* to preserve it self? Again, who ever saw, or credibly heard of those *vene lactea* arising in the Earth, and yielding a suitable nutriment to a new born *Fætus*? These Suppositions must withall suppose a total Inversion of the Course and Nature of Things quite from what they now are, and in all Ages have been; which, though it is true, those that admit a higher Principle than Nature, do and may with sufficient warrant and consonancy to their *Hypothesis* admit; yet is utterly unreasonable for such a Philosopher, who not only with some of the ancient *Peripateticks* excludes any Divine Providence below the Moon, but wholly exterminates it, *ultra flammantis mœnia Cœli.*

And this is all I say at present, touching that Opinion which supposeth a meer casual Production of Mankind. There will be something in the ensuing Chapter, which though it be applied to the Imaginary *Hypothesis* of the Natural Production of Mankind, yet will be of use in relation to this *Hypothesis* of the Casual Production of Mankind.

C A P. III.

Touching the Second Opinion of those that assert the Natural Production of Mankind ex non genitis, or the possibility thereof.

THE second Opinion is, that by a certain kind of natural Connexion of Causes, Mankind not only may be, but in their first Origination were produced *ex non genitis*: Which though for distinctions sake from the ordinary course of Generation we may call spontaneous or accidental, yet the same, if it were true, were truly natural, and deduced by a certain

certain Chain of Natural Causes; as the yearly production of Insects, *ex patri materia*, or, as the Mice or Rats in *Egypt* are supposed by *Diodorus Siculus* to be produced after the decrease of *Nilus* in *Egypt*.

This seems to be the Opinion of some of the Ancients, that yet subscribed not to the Hypothesis of *Epicurus* touching the casual production of things by the uncertain concurrence of Atoms, as of *Anaximander* and some others, which I shall not need here again to repeat; and the same Opinion hath been asserted by others, but with these two Correctives.

1. That the same is no casual and fortuitous Production, by the meer casual conjunction of Atomical Bodies, as *Epicurus* would have the first *Semina*, at least of Men and Animals, to be made up; but by an ordinary, natural, and necessary connexion of Natural Causes and Effects.

2. That yet many of them blame the Ancients, as being too venturous in telling us the particular Method or Order of these Productions out of *Folliculi*, or *Cortices spinosi*, or Fishes, because that is not a thing discoverable by Experience, or Natural Light; yet herein they agree, That this Production may be, and hath been a Natural Production *ex non genitis*, though the particular Manner of it is not so easie to be certainly explained.

Hippocrates the great Physician seems to have inclined to this Perswasion; for, *Sect. 3. de Carnibus*, he writes to this purpose; *Quod Calidum vocamus, id mihi immortale esse videtur; cunctaque intelligere, videre, & audire, sentireque omnia tum presentia tum futura, cujus pars maxima cum omnia perturbata essent in supremum ambitum secessit, quod mihi veteres videntur Aethera appellasse: altera pars locum infimum sortita Terra quidem appellatur, frigida & sicca, multasque motiones habens in qua multum sane calidi inest: tertia vero pars medium aeris locum nata est, calidum quid existens: quarta pars, terrae proximum locum obtinens, humidissima & crassissima. His igitur in orbem agitat, cum turbata esset calidi pars magna, alias in terra relicta est, partim quidem magna, partim vero minor; & alias etiam valde parva, sed in multas partes divisa, & temporis successu resiccata terra ista, in ea tanquam in membranis contenta circum se putredines excitans, & longo tempore incalescens, quod quidem ex terra putredine pinguedinem sortitum est; & minimum humidi habens, id citissime ossa produxit: And then assigns the Methods of conformation of the Nerves; Veins, Arteries; and the rest of the Body in conformity to this Supposition. So this great Physician and Naturalist delivers his Opinion. Wherein we may observe, that he takes the Hot or Fiery Nature to be God, knowing and understanding all things; which seems to be the ancient Error of the Eastern Countries, especially the *Persians*.*

Yet this is observable, 1. That he supposeth an Origination of Mankind after the Formation of the World. 2. Though the Formative Process of Mankind seems in his Opinion to be in a sort Natural, yet he supposeth it not purely so, but a Production by those fiery Particles which were Particles of a Divine Intelligent Nature. And though he be mistaken in the Method of the Origination of Mankind, as shall be shewn, yet he supposeth it, *Opus intelligentis Naturae agentis per scientiam*.

Avicen in the second Book of his *Metaphysics*, cap. 15. delivers his Opinion; *Possibile esse hominem generari ex terra, sed convenientius in matrice*: which Opinion *Averroes* his Country-man perstringeth with some indigna-

indignation, *Commentar. 8. Physicor. cap. 5. Iste sermo ab homine qui dat se scientiæ, est valde fatuus*: his Reasons, I confess, are such as may not be admitted; for being a rigid Assertor of the Eternity of the World in the state it now stands, he formeth his Reasons against the Opinion of *Avicen* principally, if not altogether, upon that *Hypothesis*.

Cardanus, in his ninth Book, *de Animalibus quæ ex Putredine generantur*, discoursing about Locusts, hath this passage; *Et non solum ea minuta, sed & majora animalia è putredine, imò omnia credendum est originem ducere; cum jam de Muribus constet, & Pisces in aquis recentibus sponte generentur*: but his severe Corrector, *Julius Scaliger*, in *Exercit. 193.* calls it, *Illa impia & nefaria vox*; *Si Bos aliquando ex putri ortus est, cur post hominum memoriam ex ejusmodi procreatione nullus existit? Casalpinus*, in his fifth Book *Questionum Peripateticarum, cap. 1.* undertakes an entire Defence of the Position of *Cardanus*, and contends not only that it is possible, but that *de facto* it is true. The sum of his Opinion seems to be this,

That although the Soul of Man be of a higher nature and extraction, yet the Body, and these Powers or Faculties of Life and Sense may be, and have been formed *ex putredine*, without the conjunction of Sexes; as Weeds, Vegetables, and Insects.

And that he meaneth such a Production to be by an ordinary course of Nature, he largely insists upon that Axiom of *Aristotle*, *Sol & homo generant hominem*; which he understands *in sensu diviso*, and that there is in the heat of the Sun an active, generative Principle, which in Matter prepared for its operation, commonly called Putrefaction, produceth a Seminal Formative Seed, sufficient of it self for the production of the Humane Nature, as also of the nature of other Animals.

That the *Species* of Animals are eternal, not upon the account of an eternal succession by ordinary propagation, but by that succession that would arise in certain great Conjunctions of the Heavens, and the heat of the Sun, which would be productive of the Individuals of the several *Species*; though all the *Species* of Animals were destroyed by Floods or other accidents, as possibly they might be.

That although the ordinary Method of preserving the *Species* of Men and Animals by ordinary Generation, be fitted for the ordinary continuation of the *Species*; yet without this Method of production out of prepared Earth, Nature were defective, and wanted a sufficient Expedient for the preservation of *Species* upon great Occurrences.

That although this production of Men and perfect Animals *ex putri* be not obvious to our ordinary Experience, it is not because the Supposition wants truth, but because 1. Every place is not fit for such a production, but where there is a constant and sufficient heat, duly to prepare and digest the Matter. But the likeliest place for such production is some unknown place between the Tropicks, where the heat is great and constant. 2. Because the maturation and ripening of such Productions require longer time than that which is sufficient for the production of Insects: for we see greater Animals, even with all the advantages of the *calor uterinus*, require a longer time for their formation and maturation; as, a Man nine months, an Elephant two years; and consequently, their productions without this *auxilium uterinum* must require longer time.

Then

Then he gives us a large account touching Insects, that arise *ex putredine*, and yet are of the same *Species* with those that are produced *per coitum*; and that when they are produced *ex putri materia*, yet they propagate successively Individuals of the same kind: and that if greater Animals were thus produced, they would be of the same *Species* with the like Animals propagated *per generationem ordinariam*, and would accordingly propagate their kind; as many Herbs and Trees arise spontaneously, yet are of the same *Species* with others that are *per seminationem*, and produce Seed, and thereby continue their *Species* as well as others that arise *per profeminationem*.

This I take to be the effect of his Position and his Reasons, which are very learnedly and smartly refuted by *Fortunius Licetus*, in his first Book *de Spontaneo Ortu*.

But yet there was one difficulty which *Casalpinus* doth not at all, as I remember, obviate, which yet renders his Supposition utterly inexplicable; namely, since the Heat and Influences of the Heavens, even in their supposed extraordinary Conjunctions, must needs be uniform at those times, and in or near those Climates wherein they happen, how comes it to pass that the same univocal Heat doth produce at that time any variety of Animals? why should it not produce only Men, as the best of Animals, rather than Horses, Tigers, Lions, &c. Again on the other side, since the disposition of all the parts of Terrestrial Matter is so divers, and qualified with infinite combinations of Qualities and Particles, how it comes to pass, that in these great Conjunctions there are not infinite varieties of things produced, but they are determinate in certain Ranks and *Species* of Being; whereas the modifications of the Matter are so various and infinite, that the *Species* of things would be infinite, irregular, *Humano capiti cervicem equinam*. So that there seems necessary some superintendent Intellectual Nature, that by certain election and choice determined things in those determinate Ranks, and contained them within it: For the heat and influence of the Heavenly Conjunctions and of the Sun being common and universal, and the various Particles of the Earth variously modified and qualified, there could never only by these means be any determining or containing the *Species* of Animals within any determinate constant figures or bounds: And this we shall hereafter find necessary, when we come to consider the determination of Insects also in their several *Species*.

Again, he gives us not any reasonable Explication by this *Hypothesis* how the discrimination of Sexes happens, how all things thus produced come to propagate their kind, and to contain their Productions within the specifick limits of the natures of such Animals; all which were necessary to be done, to render his Supposition of this natural production of Men or Animals *ex putredine* to be any way tolerable.

Beregardus therefore in his 10th *Circulus Pisanus* hath refined and rectified this *Hypothesis* of *Casalpinus*, and of *Pomponatius* that went before him; and though he can never make out the truth or probability of his Supposition, yet he hath rendred it more tolerably explicable, especially in relation to the forementioned deficiencies; I will give the sum of his Supposition briefly, as I understand it: And it seems thus;

That the *Calidum innatum* is that *Altrix anima*, and *Principium seminale*
sine

sine quo nihil gignitur, and is the *Basis* of Life in all things that have it; but yet it is never single, and by it self; but is the first Rudiment of Life, and determined by the particular *Species* of Life in every Individual that hath Life: for there is no *vivens* that is not either *Equus*; or *Canis*, or *Vitis*, or some other determinate Vegetable or Animal.

That there are three kinds of this Life wherein it is specifically determined, *viz.* Vegetable, Sensible, and Rational.

That at least the two former (he means the latter also, if he durst speak out) are raised out of certain Seminal Principles, whereby the *Calidum innatum* is specifically determined to this or that Specific Life.

That these *Semina* are not eternal, because made up of things or *Principia* that are pre-existing: this seems perfectly to agree with the Doctrine of *Epicurus* before mentioned, whose Patronage he seems to take in the Person of *Aristaus*; yet with some Correctives, as is hereafter shewn.

That there were in Nature various kinds of *Calida*, or Fiery Particles, or *Spiritus ignei*, and various kinds of *Humida* and *Frigida*; these were eternally floating up and down in small Particles, and variously agitated and mingled, which made up by this mixture the constituent *Semina* of Vegetative and Sensitive Natures.

That in this Constitution of the various kinds of the *Spiritus ignei* were the constituent *Anima vegetabilium & sensibilibum*, and the various kind of *Humores* were the *Oleum* and *Balsamum vite*; and according to the variety of these *Spiritus ignei*, which were as it were *Seminiū natura*, were the various *Species* of these *Semina*, and the various specific production of Vegetable and Sensible Natures arose from them.

That the Composition of these *Semina* was not meerly fortuitous, as *Epicurus*, but he gives us a more gentle Explication thereof; *Præcipua verò & planè divina est permixtio ista, quæ in particulas diffinguntur minutissimas, & quantum satis est ad componendum semen misti alicujus aptissimè coagmentantur, ut non magis quam par est, neque minus illud efficiant; quippe sunt natura ad hoc determinata.*

That these are the Seeds of all living things, and they were scattered up and down in the Earth and Waters; and that therefore every living Being had its proper *Semen* for his Origination there lodged.

That yet till the Matter wherein these Seeds were lodged were conveniently prepared, there would be no production of Animals by these Seeds.

That the *Semina* of Mankind, and of the greater Animals required a greater and more effectual preparation of the Matter, or a *Menstruum* for their production out of those *Semina*, and therefore required the greater Conjunctions of the Heavens for their production; though ordinary Conjunctions serve for the production of Insects and Vegetables, namely, the regrefs of the Sun.

That by these *Semina* of all living Beings, though the World were eternal, there might be successive Supplies and Reparations of Animals and Men; and though the whole *Species* of Men and Animals were destroyed, yet upon the returns of these great Conjunctions and Positions of the Heavens requisite for a due preparation of the *Menstruum* in the Earth for these *Semina*, their *Species* would be restored out of these *Semina*.

That

That the *Terrigenæ* might either be produced *adulti*, and so able to shift for themselves; or else be furnished with a convenient nourishment from the Earth; or that they might be in their first production not like Infants new born, but able to get their livelihood, as some young Brutes are.

Thus we have the Supposition of this witty Man also, who by the supposition of these antecedent *Semina*, made up of the divers *Spiritus ignei* and *Humores*, hath supplied what was wanting in *Casalpinus*, or at least better explicated it; and by supposing this mixture of these *Spiritus ignei* and *Humores* in their several proportions, by something more than a fortuitous means, hath something rectified the exorbitancy of *Epicurus*; though still he suppose those *Spiritus ignei*, which were as it were the various Souls of those various Seeds, and afterwards of the several Animals produced by them, were natural and eternal.

That which seems to have given the original ground-work of all these Opinions, hath been,

1. Some Expressions that fell from *Aristotle*, which are before mentioned, that seem to give countenance to this Opinion.

2. A proud vanity in Men of Wit, to resolve all things into Nature and pure natural and necessary Causes, unwilling to recognize the interposition of Almighty God, and his *Beneplacitum* in the Origination of things, and yet finding too many absurdities accompanying the *Hypothesis* of Eternal Generations of Mankind, *ex successivis genitis*.

3. But principally the Observation of the spontaneous production of Insects and little Animals *ex putri materia*, whose structure nevertheless is as admirable as the structure of greater Animals; and that they also being thus originally produced, yet propagate their kind by successive Generations, have distinction of Sexes and Faculties: This, it seems, principally gave start to this Opinion touching the like Origination of Mankind and greater Animals by a natural spontaneous production.

And because this Instance of the natural production of Insects is that, which as it probably gave the rise to this Opinion for the like production of Mankind or other Animals, and seems to be the only experimental Instance that is given to assert the possibility or probability of the other, I shall consider it largely under these several Examinations.

1. Whether there be any *sponte orta* among Vegetables and Insects, but especially the latter.

2. Admit there be, yet whether those *sponte orta* do arise meerly from any natural or accidental Cause.

3. Admit they may arise from any natural or accidental Cause, yet whether there be any consequence of a like possibility in the Origination of perfect Animals, but especially of Mankind.

4. Admit it may be possible in Speculation, yet how far forth *de facto* the same hath happened without the interposition of the Divine Power; which renders it a supernatural, not a natural production.

C A P. IV.

Concerning Vegetables, and especially Insecta Animalia; whether any of them are sponte orta, or arise not rather ex præexistente semine.

THERE are several Ranks of Being in this inferior World, which have various specifical Degrees or Ranks of Perfection one above another.

The first division of them is into things Inanimate, and things that are Animate; wherein the latter have another, and a nobler Form, or (if that Word be disliked) Nature than the former.

Of things Animate there are three distinct natures, the latter exceeding still not only in degree but in kind, perfection, and excellence of nature the former; namely, things vegetable, that have simply Life, with those operations incident to Life. The second sensible, that have not only a Life of vegetation, but a Life of sense, and faculties, and operations corresponding to it. The third rational or intellectual, that hath not only a Life of vegetation and sense, but an intellectual Life, and faculties and operations subservient and suitable to that Life.

Among Vegetables, as to the purpose in hand, there seem to be two kinds or degrees: Some are the more perfect, which do not ordinarily arise but from Seminal Particles immediately derived from the Vegetable, either the Root, or the Branch, or the *Semen formatum* of these Vegetables; as an Apple-tree, or a Rose, &c.

Others seem to be less perfect, because they seem oftentimes to arise equivocally neither from Seed, Root, or Branch of the same *Species*, as well as from it.

But even in all these there are none but arise from a vegetable Principle, and not barely from what is inanimate, and for the most part, if not altogether, from a vegetable Principle or *Semen* of the same kind.

1. It seems that the upper superficies of the Earth at least, is plainly a Vegetable Nature; and that it is no more forcible Argument to say that the Grass of the Earth, Nettles, Docks, Thistles, and such like common excrescences are no more spontaneous productions in the Earth, than the Feathers upon Birds, or the Hair upon Beasts or upon the Heads of Men are a spontaneous production: for though these are excrementitious, and not really parts of the Bird, Animal, or Man, but growing in the Pores of the Skin, and having the Roots there as the Grass or the Thistle hath in the superficies of the Earth; yet they grow, and are nourished from that vegetable power that is in the nature of Animals: so that they are but vital Excrescences from a vital portion of the Earth, namely, its Superficies.

2. Again, it seems that there is scarce, if at all, any Vegetable that is in the Earth, but it ariseth *ex præexistente semine specifico*.

The *Semina* of Vegetables are of two kinds, according to their several natures; some are formally Seeds, those *Molecula seminales*, that are the choicest spirituous parts of the Vegetable moulded up into a specifical Seed:

Seed: And hence it is, that some smaller sorts of Herbs that yield a natural Seed dye the Winter after they have produced; partly, because they have as it were performed their trust that Nature committed to them for the preservation of their kind; but principally, because they have delivered up into the Seed that Vital Particle which maintained their own Life when they had it: And therefore such Herbs, if their semination be prevented by being cut, survive to the next Year.

And these Seeds are very numerous and various, and many times very small, whereby they are many times accidentally transplanted into great remote distances: for Instance, sometimes by Floods of Water and sometimes by Winds, sometimes by Birds, sometimes by Beasts, who taking them in among grosser nutriment, and by reason thereof, and of their smallness, escaping without maceration, they retain their seminal nature in their very Dung; and sometimes by Exhalations, for the Exhalations will sometimes lift up things of some bulk, together with the watry Vapours: we have seen it rain little grains like Rye, which upon search have been found Seeds of Ivy: and therefore those small *Moleculæ*, that are almost imperceptible, may with much more ease be raised, and transplanted as it were by the motion of the Clouds into other places or Countries, which may be conjectured to be fortuitous, and yet are truly and really univocal. This *Pliny* witnesseth, *lib. 19. cap. 3.* of the Herb *Lasertium*, whose Seed was transported; and sowed in a strange Country by a storm of Rain.

Again, there be some Seminal Parts of Herbs and Trees which produce their kind, though without that formal Seed whereof we have spoken; and commonly such Seminal Parts are either of the more imperfect sorts of Herbs or Trees, or else a very great coacervation of the Parts of those that otherwise require a more regular Seed.

There is scarce any Tree but these three parts are actually prolifick of of its kind; 1. The Seed: 2. The Root: 3. The Branch or Buds, with incision into another Tree or Stock: the Branch of an ordinary Apple will not grow being set in the ground, but the Branch of a Willow, Codling-Tree, or Vine will take root being set in the ground. The Oak will not ordinarily grow but by the Seed or Root implanted; but common experience shews us that a woody ground of Oak, or any other Wood which hath stood long, and is after felled, will run to Oak again, though the Root be dead; a great quantity of the Leaves, Wood, *Cortex* or Rind putrified in the ground will leave a *Seminum* in it, which will after turn to a Wood of Oak again. And many Plants have all their Parts Seminal, though not so vigorous as the regular *Semen* of those Plants; the Branches and Leaves, nay if we believe those that pretend to have tryed it frequently, the Decoction, Infusion, Ashes of some Herbs scattered in good Mould and well watered, will produce their proper *Species*. *Vide Kircher. in Mundo subterraneo.* And I do perswade my self, that the common Dew exhaled from some sorts of Herbs or Weeds, but especially from the common Grass, carries with it the Seminal Tincture of the Herb, which being again descended by Dews or Rain upon the bare and naked Earth, re-produce the same *Species*: and hence it is that Grass, which is the ordinary fruit of the Earth, and therefore most visited with the Dew of Heaven; and re-exhaled again, doth most

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ordinarily re-produce Grass. And therefore Virgin-Earth taken out of the bottom of a Well and kept in a House, will, if at all, be very long before it will gain that Vesture; but exposed to the Air, where the Dew or Rain falls, it will soon be green, as those that have tryed it affirm: Sir Francis Bacon, Nat. Hist. Cent. 6. pag. 117. and upon the same reason it is, that (as the same Author there observed) foreign Earth will incline to bring forth Herbs of the same Country whence it was brought, because probably impregnated with the Seminal Particles of the Country whence it came.

It is true, many times Plants and Herbs, though arising by a specifical *Seminium* of their own Herbs or Plants, will seem to change their figure, and become of another kind; as by transplanting wild Flowers or Herbs into Gardens where the mould is better, or *è converso*, the poorness or richness of the Soil varies the shape or extent: Thus some say Corn will degenerate into Tares; Fruits will degenerate, being sown: And again, mixture of Seeds, or Seeds impregnated with Tinctures of other Seeds or things may change their smell, colour, taste, or figure. But in all these Transmutations, whether for the better or the worse, still the Seminal Specifical Principle remains.

So that it may seem that we are too hasty and inconsiderate, in concluding that all Trees and Herbs not produced *ex semine formato*, are therefore *sponte nata*: for there be infinite means of transplantation of real Seeds, and very many *Semina* or Seminal Particles of Vegetables that we know not. I do remember, many Years since, I found in a Ground that had no Oaken Trees in it, nor very near it, yet every Year abundance of young Oaks growing up some two, some three Inches high; and I thought them to be all *sponte nata*, and concluded an Oak to be of another nature than I formerly thought: But Observation corrected my mistake; for I found the Crows fetching the Acorns from a Wood not far off, and when they had eat what they pleased, they hid the rest for their future supply, but forgot them, and the next Spring they prospered into young Oaken Plants. We are not therefore presently to conclude every Vegetable *sponte natum*, because we see not its profemination.

But the Consideration of Insects is that which is of more congruity to this present purpose, because they are sensible Beings, and have in their little Model almost, if not altogether, all the Organs and Faculties of the greater Animals; yea and Phantasie and Imagination, and Memory, as appears especially by Bees and Ants, who find their ways home from a great distance. But yet we must say, that their Faculties and Organs, though admirable, yet are not of equal perfection with those of the nobler kind of Animals, as will appear more hereafter.

They also that seem to have their Origination *ex putrido*, or spontaneously; yet it is evident to Experience that they do propagate their kind; contrary to what was thought by Aristotle in his Book *de Gen. Animal. lib. 1. cap. 1.* who supposeth, *At verò quæ non ex coitu sed ex putri materia oriuntur, ea generant quidem, sed genus diversum.*

And touching these Insects, though they seem to be *sponte orta*, yet there is much may be said that their Original is not spontaneous, but that even those Insects that seem *sponte orta*, arise one of these ways:

1. Either

1. Either immediately, *ex semine prioris Insecti ejusdem speciei*; 2. Or mediately, *ex hujusmodi semine*; Or, 3. *ex vivo animali diverse speciei*; Or, 4. *ex mortuo animali diverse speciei, seu cadavere*: For some think that it is not easily grantable, that a Being endued with Sense can by the course of Nature arise from a Being without Sense, or at least without Life. *Vide Kircher. l. 12. Mundi subterranei; Fortunium Licetum, de Insectis.*

Touching the first of these, many of those Insects that seem to be *sponte orta*, do indeed immediately arise from the *Semina* of Insects of the same kind: for these Insects for the most part *ex coitu* do produce an innumerable multitude of little Eggs or *Semina*, that sometimes in the same Year grow to Animals of the same kind; and sometimes their *Semina* are deposited in some Crannies or Coverts of the Earth, or Trees Leaves, or other Receptacles that serve for the *Seminium* or Store of the next Spring.

Malpighius, that hath made a curious disquisition touching the Silk-Worm, tells us, that the usual product of that Worm in one Year is never less than 300, but most often 500 Eggs, most of which are *fecunda*; and the like is visible in Caterpillars, Flies, Worms, Frogs, Locusts, Wasps, and all other Insects.

It is true, the Winter destroys most of these Insects, and many of their *Semina*, and therefore the colder the Winter is, the less the next Spring is infested with them: But many of these *Semina* are preserved till the next Spring, and then they assume their specifick Life by the heat of the approaching Sun.

These *Semina* being very small and light, are many times dispersed into other places by the Winds, sometimes carried away to other places by Waters and Floods, sometimes exhaled into the Air with the gross Vapours drawn up by the Sun, and poured down by Rain again on other places. And this multitude of these little *Semina* thus dispersed, assuming in the Spring their natural kinds, give Men occasion to think them *sponte orta*; whereas in truth they do as really arise *ex semine specifico*, as the greater Animals.

And therefore credit is hard given to the Story of *Diodorus Siculus*, or of the Poet out of him, concerning the Mice arising in *Egypt*, out of the Slime of *Nilus*;

Altera pars vivit, manet & pars altera tellus.

Neither to the confident *Helmont*, in his *Traët De Imagine Fermenti impregnante massam Seminis*, pag. 113. who tells us, that if a foul Shirt be put within the mouth of a Vessel where there is Wheat, that in the space of 21 days it will turn the Wheat into Mice; nor that other Relation of his in the same place, that the Herb Basil being bruised, and exposed to the heat of the Sun some days, will breed Scorpions.

And as concerning the productions of Insects out of Vegetables, *viz.* those little Animals that are bred in Flowers and Herbs, there are some that think they are not the natural production of the Vegetables, but that they are the small *Semina* of those Flies that are lodged in the cavities of them; such as are in the Leaves of Elms, or in the Leaves or Fruits of other Herbs or Trees, as in the Oak-apple, the Hasel-nut, and some others.

And

And besides these formal Seeds, the several parts of Insects have also their Seminal Nature in them, and produce often Insects of the same kind: see for this the whole Tract of *Kircher* in his *Mundus subterraneus*, lib. 12. cap. 1. & seqq. wherein he gives us the Solution of the *ortus spontaneus* of the Barnacles in the *Orcades* and other Parts, by the Eggs of the Sea-Fowls that are driven upon this Shore; and many Instances of the Artificial production of Insects out of the macerated Materials of Worms, Frogs, Locusts, Shell-Fish, Scorpions: whereby it appears that all their Parts are seminal, though not so active and formative as their Formal Seeds are.

2. As to the mediate production of Insects, yet out of the Seminal Natures of others of the same *Species*: Thus out of the *Fimeta* of Horses, Oxen, and Sheep arise *Scarabei* or Beetles, and according to *Kircher*, *ubi supra*, Bees have their production out of the *Stercus Bovis*; which yet he attributes to those *Molecula feminales* deposited in those Flowers where-upon Cows do feed, but not so macerated in the digestion but that they retain their primitive Seminal Nature; though perchance this may be too remote and laborious a reduction, and possibly it were better to be reduced to that which follows, namely, from the *Animal vivum*; upon which account he supposeth, that Ants are *Humana urina proles*.

3. Therefore the third Original of Insects is from the living Body of another Animal, whose excrementitious parts do naturally breed Insects, as Lice, Fleas, Worms; yea and according to the Author's Observation, there is scarce any noysom Disease in the Body but it breeds Worms: yea and according to a late curious Anatomist, *Kirkringius*, there are scarce any *Viscera* of the Body of Man, but hath many sorts of Worms in it. And the Solution of these Productions seem to be thus:

That the Sensitive Nature being divisible, communicates it self in various degrees unto all that is united to the Body; the Chyle, the Humors, nay the very Excrementitious Parts, the natural Excrements, the Urine, the Hair, the excrementitious Sweat and Evaporations carry along with them the mean and low *Effluvia* of the Sensible Nature or Animal Spirits.

That these *Effluvia*, when they are closed up in any viscous Continent that may contain and keep them together from being presently diffused and wasted, assume the form of an Animal, though not of the same nature, nor worth, nor excellence, nor perfection of the Animal it self that produceth it: for the meanest and basest *Effluvia* of the Animal Soul accompany these mean and base *connexa* of the Animal Body, namely, the foul Humours and Excrements. And hence it is, that those nasty Productions, as Lice, Fleas, *Cimices*, the Worms in the Intestines or Ventricle, nay in the Heart, Liver, Ears and other parts of Men are bred: and from this participation of those baser *Effluvia* of the Animal Spirits, the Hairs of Horses lodged in standing Water will gather life, and the form of an Insect.

4. As the *Animal vivum* thus communicates a Sensible Nature to Insects produced from it, so doth the *Cadaver* or dead Body: Hence come generally Worms, which in the heat of the Sun sometimes turn into Flies; and according to the Tradition of the Ancient and Moderns, Bees grow out of the dead Bodies of Cows, Wasps and Hornets of Horses; which

which nevertheless some attribute to a *residuum* of those Seminal Particles of the very Insects which these Beasts devour, with the Flowers and Herbs where they are lodged.

And to maintain that general Supposition before insisted upon, That *Viva & sentientia non generantur ex non vivis & sentientibus*; they say, That even in the *Cadaver* there remain certain Animal Spirits, *tanquam in vase*, which serve for the production of Animal Natures of this base and low allay.

And so in all those productions of Insects *ex animale vivo vel cadavere*, the *Semen* of that Insect is a Vital and Animal Principle, though it be not, immediately at least, of the same kind.

And because these Productions are not immediately of the Seminal Particles of the Insect, but of a living nature of another kind, therefore always the *Productum* or Insect is of a different, baser, and more imperfect nature than the Producent.

And this is the Sum of what is observed by *Licetus, de Sponte ortis*, and *Kircherus, ubi supra, viz. Lib. 12. Mundi subterranei*.

But yet though much of this be very true, and that Insects are not therefore *sponte nata*, as people think, yea they are never *sponte nata ex non viventibus*; yet I do doubt that it may be found by experience; that some sorts of Insects do arise from Vegetables, at least of a very exalted nature: for the truth is, that some sort of Vegetables seem to be in the next degree to the lowest sort of Insect Animals, as may appear in the Plant called the Sensitive Plant and some others: And therefore it is not impossible but some sort of Insects may arise immediately out of some sort of Vegetables, as the *Gurgulio*, that ariseth in the Wheat; the *Wivel*, that riseth in the Malt; and the *Hippuris* or Horse-tail, and the *Liburnus* or White Vine, that *Kircher* himself mentions in the same 12th Book, Sect. 1. Cap. 9. to grow into an Insect in the Water; and those Instances in the same Chapter of *Franciscus Corvinus*, that in every Vegetable had observed a proper Insect bred in it, and living upon it; and the experience of the growing of Moths out of the Seeds of Lavender, and Worms in Rose-Cakes: these experimented Observations seem to correct the universality of the Assertion, that *Non nascuntur Insecta animalia ex non animalibus*; though I think it may be universally true, that they are not produced *ex non viventibus*, they are always the production of the *Semen* or Seminal Particles of an Insect, or of the Parts of an Animal or *Cadaver animalis*, or of that which is or was vegetable.

Yet some there are, that think that these *Insecta animalia* that seem to be produced immediately *ex herbis, stirpibus, arboribus, & vegetabilibus*, or Animals of another kind; yet the first *Seminium* of these *Insecta* are either the *Semina*, or the Seminal Particles of Insects of the same Species, percolated through the various parts of Vegetables or Animals: In so much that *Gassendus* that inquisitive Naturalist seems to think, that the very Lice and Fleas and Worms in a Man, are but the Productions of the several Seeds of Animals of the like kind; *Cum in eodem homine ex sordibus capitis Pediculi, ex sordibus barbae Ala, inguinis Ricini, ex intercutaneo humore Cyrones oriantur, & ita de ceteris; quoniam alio id referamus quam ad diversa semina quae à diversis sive plantis sive animalibus proliciantur, & sese ad diversas partes quatenus congruunt, recipiant, accommodantve inter nutriendum?*

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I do not here take upon me a distinct and exact Discourse touching production of Insects, it is one of the most abstruse, curious, and various Inquiries in Nature: There be many that have busied themselves on purpose in it, to which any one may have recourse, as *Cardanus* in his Book *de Subtilitate*, and *Scaliger* his *Animadversions* thereupon; *Gassendus* in *Physicis*, sect. 3. l. 4. cap. 1: *Kircher*. l. 12. sect. 1, & 2. *Aldrovandus*, per totum; *Fortunius Licetus*, his Book *De Ortu Sponte nascentium*; *Vossius*, *De Origine Idololat.* lib. 4. cap. 65. & seqq. All that I shall say farther in it, is but this:

First, that it is most certain that many of those productions of Insects which Men ordinarily take to be spontaneous, are yet in truth univocal from Insects of the same *Species*, their formal Seeds or Seminal Particles.

Secondly, that it is not certain that any production of Insects is spontaneous, or not from the Seed of other Animals that were of the same *Species*: for we are not certain, but that the *Semina* or Seminal Particles of these Insects may be percolated or derived by divers *Meanders* and long obscure passages into or through the Bodies of Vegetables or Animals of another *Species*.

Thirdly, that it is very probable that they are so traduced by these experimental Assays that have been either experimented by Observation, or by Art; whereby it is rendred evident to Sense, that their production at this day may be, and often is of the *Semina* or Seminal Particles of Insects of the same kind.

The Consequence whereof is, That the production of all these little Particles of Sensitive Life, as well as of the greater Animals, though at the first it were *ex non genitis*, by the Power and *Fiat* of Almighty God; yet since that time it may be probable they have their propagations univocal, *Ex semine vel seminio præexistentis Insecti ejusdem speciei, vel formato vel analogo.*

This Consideration may assure us, That the production at least of the generality of Insects which seem to be spontaneous, is truly seminal and univocal; though possibly upon a severe disquisition it may be found, that some are meerly spontaneous and equivocal Productions *ex putri*, whereof I shall give a farther account in something that follows, especially in the next Section.

C A P. V.

If it be supposed that any of those Insects at this day have their Original ex non genitis, or spontaneè; whether yet the same may be said a Natural or Fortuitous Production.

I Come now to the Second Particular, which is this; That admitting there were any such production of Insects at this day, whether the same were purely Natural: Wherein I shall briefly say,

1. That it seems very probable, that the *Species* of Insects were at first in their first Creation determinate and certain; and although since partly by

by degeneration, partly by various mixtures their *Species* are changed and multiplied, even as the perfect Animals in *Africa* are by a mixture of *Species*, yet they were at first determinate.

2. That it seems the production of the first Insects was like to that of perfect Animals: they were not produced *ex semine*, or *per processum seminale*, whether *ex Ovo* or *ex Verme*, but were produced in the complement of their specific and individual existence. For it is much more suitable to Reason, and to the nature of things, that the Animal should have an antecedence to the Seed, and that the *Semen* should be rather the effect of an Animal at first than an efficient; or according to *Plutarch's* Discourse, that the Hen should be before the Egg, rather than the Egg before the Hen.

3. That yet if we should suppose that in the first production of Insects at least, they should arise *ex praexistente semine*, or that at this day they should arise *de novo*; yet bare Matter were not possibly sufficient for its production, without some Seminal Principle that might determin the Insect to its kind, and advance in it that formation and organization of Parts, and effect those admirable Faculties of Sense and Imagination which we see in them: For it were exceedingly above the bare activity of Elementary qualities, though the most active, as that of Heat, to raise so curious and admirable a Fabrick as the Bodies of those little Animals, much less the Faculties of Life, Sense, and Imagination. And if it were possible that some of the qualities and dispositions, or modifications, or temperament of Matter could arrive to the production of any such little sensible Being, yet it could never be contained, nor contain it self within any determinate *species* or kinds, but as the modifications, temperaments and qualities of Matter are infinite and various, according to its various Mixtures and Combinations, so the Productions would be ever irregular, monstrous, and never colligated or contained in any certain *species*.

It remains therefore that in the first production of Insects, whether at this day, or in the first eduction of their *species*, if they were not produced in the complement of their individual and specific nature, they must necessarily be produced *ex aliquo semine congruo, & determinante materia*.

And certainly the Constitution of such a *Semen* is, as I have before observed, a work of great Wisdom, Intelligence, and Power, no way less than such a Power that must have made an Individual of the same kind in his complete existence. For the *Semen* of every thing contains in it the small *Idea* of that Nature which it is to produce, which is as it were minted and stamped upon it, and contains an admirable power of evolving and dilating it self, and bringing forth that admirable Fabrick, and that singular Conformation of Parts, and those wonderful Faculties of Life, Sense, and Imagination, and the several Organs and Operations belonging to it.

Some there are that have said, and with very great truth, That the smallest Animal in the World sets forth the Wisdom and Excellence of the great Architect of the World more conspicuously than the Fabrick of the greatest Whale or Elephant; as the smaller an excellent Watch is (if it have all its parts, motions, order, and constancy) it more sets forth the skill of the Artist than a greater Fabrick. When a Man shall see in

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that Animal that well near escapes his sight by reason of its smallness, as the *Acarus*, the *Cyrc* or Hand-worm, yet he shall plainly by the help of a Microscope behold in it all the conformation of its little Limbs useful for its being; all the Operations of Senses and Organs thereof; the several Faculties, Offices, and Parts subservient to it; the several *Viscera* that serve for the exercise of Life and Sense, it must needs render the Skill of the Author thereof admirable. But yet again, when possibly the Seminal Principle of this little Animal bears it may be as small a proportion to it as the Insect it self doth to greater Animals, it may be a little imperceptible Egg; and yet in that little Body all the Ideal parts of this Animal and that Principle that immediately conforms the several Faculties and Organs of this little Animal: The Power and Wisdom that conforms such a little *Semen* is no less wonderful, than if it had immediately conformed the *Animal* without the intervention of such a Seminal Particle.

And therefore most certainly the Conformation of these little *Molecula seminales*, if any be antecedent to the production of these Insects, is a work of intelligence, choice, election, design, and that of a most wise and intelligent Being; and cannot be the production either meerly of Chance, as the *Epicureans* would have it; nor of that which little differs, namely, an ignorant, unknowing, unelective Principle, for such is barely Nature, unless they that use that denomination mean by it Almighty God.

And when I assert that these *Molecula seminales* antecedent to the production of any living or sensible nature, if there be any such, are produced by Almighty God; it is not my meaning, that they are therefore immediately created, or immediately put together or compounded (by the immediate Finger of God) if I may use that Expression to render the sense I intend: But it is sufficient, that the great and supreme intellectual Being having in his infinite Wisdom the Prospect of all things, hath so set and ordered the Motion of Second Causes, to bring together and mingle the constituent Materials of these *Semina*, and he by his Almighty *Fiat* hath annexed to such Compositions, and imprinted upon them the stamp and efficacy of a Seminal Principle; it will be equally the Work of Almighty God if these Compositions be brought together by the Motion and Heat of the Sun, or by the powerful Motion and Determination of various kinds of Ferments; some possibly originally created, and dispersed in the Earth, Air, and Waters, others accidental, arising from the corrupted and mingled Matter of dissolved Animals and Vegetables, whereof I shall in due time, God willing, give a more distinct Account; as if they were immediately created out of nothing: But the Mint, the Stamp, the Signature, the Seminal Efficacy of this *Molecula seminalis* is the Intention, Election, and *Fiat* of the glorious God, and can never be the bare production of a sord unintelligent nature. So that although it should be granted, that the excrescence of those *Insecta animalia* is not at this day from the *Semina insectorum*, but that both in the first production of them in Nature, and the yearly or daily production of them now, they were *ex seminibus, non ex insectis decisis*; yet those *Semina* or *Seminales molecula* were not meerly natural, as Nature imports a sord production of things, but were the Work and Intention of the great and glorious God of Nature.

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So then we may hereby see what would be purely natural in these *Semina*, what not. 1. It were thus far natural that the material Particles thereof possibly might have an existence in Nature before their Composition; whether these Particles were partly those *Ignæ spiritus*, and partly those *Humores primogenii* that were interspersed in Nature, or possibly the constituent Essentials both of the *Semina* themselves and of the Individuals produced by them. Again, 2. They might be thus far natural, that the immediate Instruments of the conjunction of these *Particulae seminales* might be the Heat, or Influence, or Motion, or Agitation of the Heavenly Bodies, or what other natural Instrument the Divine Power might employ in their Coagmentation. 3. They would be thus far natural, that when these *Particulae seminales* were conjoined together, and made up into their *Molecula seminales*, and when they had received their Signature, their Energy by the Divine *Fiat*, they would naturally produce their Effect, viz. the production of an Insect, when they had obtained a convenient *Menstruum* to lodge it, and the kindly Heat to ripen them; this would be as natural as any Operation of Heat or Cold, or other things are natural; which though they had their first existence by the Supernatural Power and Will of God, yet when they are in their existence they move and act according to that nature which is put into them, which is the Law of their Being, given them by Almighty God.

But the Virtue that gives these *Molecula seminales* their Energy of Productiveness, of Life and Sense, their Determination in their several *species* and Ranks, that mints and stamps them as it were with their *Esse specificum seminale*, is the Institution and *Fiat* of the Divine Will and Ordination.

So that if there be at this day any *Semina* of *Insecta animalia ex non insectis* which gives them their several determinate *species* and natures, though I am not of the mind of *Scotus*, that they have an immediate Creation by God, yet I am not of the mind of *Beregardus*, who thinks they are merely natural, and made up and put together without the Pre-disposition, Ordination, or Signature of the God of Nature; as the first power communicated to the primogenial natures of Animals and Men, to have a *Vis Seminativa* and *Prolifica* was in the first Creation of Mankind communicated to them by virtue of the Divine Institution and Benediction; though the way of exerting that Power, when produced, was natural.

But possibly much of what is in this Chapter is needless, if in truth the individual natures of Insects were at first created by God, without any pre-existing *Semen* (as we are sufficiently taught, *Gen. 1. 20, 25.*) and that the Seminal and Prolifick Power was given to them as other Animals, and consequently the *Semina viventium* were subsequent, and not antecedent to the first Institution of the Animal Nature, and an effect thereof.

C A P. VI.

Supposing the Production of Insects were totally spontaneous, equivocal, and ex putrido, whether any Consequence be thence deducible for the like Production of perfect Animals, but especially of Men.

IT is true, that Insects, and those equivocal Generations, have an admirable perfection in their kind, not much unlike to those that we find in the more perfect Animals, and indeed they are so much the more admirable, because their little and almost imperceptible *moles* renders their distinction of Faculties and Organs the more curious and artificial.

They have their several Faculties, the Senses of Sight, Hearing, Touch and Taste; they have the digestive, egestive, and other parts of the Nutritive Faculty; and though their individual production may seem equivocal, and of no univocal Seed of the same kind, yet they have the Generative Faculty, and propagate their *species* as well as perfect Animals, and have therein distinction of Sexes, as appears by frequent experience, notwithstanding the doubt or contrary Opinion of *Aristotle*; and although their Phantasie is more lubricous and fickle than perfect Animals, yet it is evident that they have a Phantasie, as appears by their Motions and little Operations; and as they have Phantasie so they have Memory, as appears by the Returns of Bees and Pismires to their homes from great distances: And as they have these Faculties of Life and Sensation, so they have Organs accommodate and admirably fitted to those several Faculties, namely, to Nutrition, Augmentation, Generation, Sense, Local Motion, Phantasie, Appetite, which are so far from being contemptible, in respect of the smallness and petiteness of these little Animals, that indeed in some respect they are the more admirable, as a small Watch is an evidence of greater skill and artifice than a greater, or as a small Picture drawn to the Life commends the skill of the Painter sometimes more than a great Draught. But yet for all this, we must not think that these little Animals are of an equal perfection with the greater and nobler: *Cæsar's* Image drawn upon a Cherry-stone is a piece of great curiosity, but not of an equal perfection to his lively Statue in Brass, or that a Fly is of an equal perfection with an Eagle. Therefore I shall not fetch Arguments against the like spontaneous Productions of the greater Animals from any contemptible valuation of these smaller, and these little Models of sensible Life; for certainly they are curious and elaborate *automata*, in respect of their admirable minuteness and accuracy: But yet upon other Reasons it seems utterly inconsequential, that because these smaller Particles of sensible Nature may be thus spontaneously produced, therefore these greater Animals may be so; for it is apparent, that in things of an equality of perfection, there is by the Laws and fixed Rules of their several Natures several manners of their productions. If we should compare Vegetables among themselves, some will arise *ex surculo* as well as *ex radice* or *ex semine*, others will not; if we compare Sensible Natures among themselves,

selves, that seem to have an equality of perfection, as some sorts of Brutes and Birds, it will be hard to say which have the perfecter Nature, yet the production of the latter are *ex ovo*, the former *ex verme*; the former oviparous, the latter viviparous in the ordinary course of their natural production, and as at this day the former is not producible *ex ovo*, so the latter not producible without it. The several natures of things have distinguished them, as in their kinds, so in the manner of their production; and whatsoever the perfection of Insects *sponte orientia* may be, there is no Consequence to be drawn from the same to other more noble Animals.

But again, as there is no Consequence to be drawn from the one to the other, so there is in the very nature of the one kind and the other, and in the natural order of their production a great disparity and disproportion: so that in truth by the very Constitution and Frame of their Natures, the perfect Animals that we see only produced by the conjunction of Sexes and univocal Generation, cannot by any course or consistency in Nature (without the Supposition of Divine Power and Ordination) arise spontaneously: And that appears 1. In the disparity of the natural Productive Principle of the one and the other; 2. In the disparity of the natural Method of the perfecting of the one and the other; 3. In the disparity of the Natures of the Animals of the one kind and the other, having arrived to their complement and perfection.

First, touching the disparity of the natural Productive Principle of the one and the other, although it be admitted that Insects and *spontaneè orta*, do or may arise from a *Semen* or Principle that is not univocal or formal; yet it must needs be agreed that the Natural Principle of such their production must be some analogal *Semen*, or some Seminal Principle that is suitable to such a Production, otherwise *quidlibet orietur ex quolibet*; there must be something that must determin the Matter to be an apt *Seminium* for such a Production, or else the Matter must determin it self; either there must be some determinate Vital or Spiritual Principle that is determined in it self, and determins the Matter (which *Paracelsus* seems to hold, that Bodies were first Spirits; and *Aristotle* seems to intimate, when he tells us, that *Animarum omnia plena*, and when the Matter is fitly prepared, there is an illapse of this Vital, Formative, Spiritual Principle into it) or else the inherent qualities or dispositions of Matter it self must be of force to mould it self up into these *Moleculæ seminales*, the Formative Principles of these *sponte orta*, (I speak in the Language of those that erroneously hold no higher Principles but such as are purely Natural.) But although such Seminal Particles as these may be sufficient for the production of Insects, yet they are not naturally accommodated for the perfection of the perfect Animals: For the *Semen prolificum* for the production of perfect Animals must receive its specificall conforming Principle, either by the Supernatural Power of Almighty God, or from the Specificall Nature of the Individuals of both Sexes; and if we could suppose an *Anima vaga* of the Sensible Nature, not confined to any Individual of the same nature, nothing could be a Matter fitly prepared for its reception but the *Materia seminalis ex individuis elicitæ*: neither is there any Matter, *extra compositum animale*, capable to advance it self to the nature of such a perfect Animal; for if either of these could

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be done, we had as much reason daily to expect the like spontaneous productions of Horses and Sheep, as we find of Frogs and Worms.

Again, the *Vis conformatrix* and Seminal Particles of Insects is most plainly in Insects not confined to the *semina formalia utriusque sexus commixta*, for we see almost all their parts are seminal, and will by putrefaction advance to the production of their kind: Their productive power is not so strictly and severely bound to the *semen utriusque sexus*: Many have told us by experience and observation, that the Excrements of Flies, without any mixtion, will produce immediately Flies, that the Resolution or Maceration of Frogs and Worms will reproduce Individuals of the same species, as Kercher, lib. 12. *Mundi subterranei*, tells us.

But there are no parts of perfect Animals that are productive of their species, but the same is, confined by the Laws of their Nature to a *semen formale ex utroque sexu decisum*. It is true, that their parts corrupted, as their Blood, Flesh, or Veins, will produce Insects and living Creatures of a different and baser kind than themselves, as Worms, Lice, Fleas, Flies, but they can never advance to the production of their own kind.

And the Reason is, because there is not possibly any transmission of that specific vital formative Principle to any other part but the *semen formale* of the Individuals of that species, and that *Vis formatrix activa vitalis & sensibilis* must be communicated either by virtue of a participation of all the parts of the Producents, or by a kind of a specific Idea, naturally produced by that Nature from whence it is derived, which evolves and expands it self being produced, or (which is more intelligible and probable than either of the former) by a participation of the vital and sensible Soul to the *semen prolificum* from the Producents, and there is no way of communication thereof in perfect Animals, but only to that natural and genuine *Semen* constituted, mixed, and ordered according to the Law of its Being; so that we cannot suppose any seminal Principle of perfect Animals, but this *semen prolificum utriusque parentis*, unless we shall *gratis*, and without either Reason or Example, wholly invert the natural order of things, and substitute a *Semen* contrary to the nature of the things that must be produced, or admit that which those great Assertors of Nature think below them to grant, and will rather suppose a thousand Absurdities than admit, namely, the Interposition of the Divine Power.

And 2. As the *Semen formativum* of perfect Animals is greatly differing from that of Insects, and therefore not capable of a spontaneous production as these, so it is apparent, that at least in *animalibus viviparis* it is impossible to be preserved, *sine receptaculo natura congruo, scilicet utero femineo*. The vital particles thereof are more fiery and volatile, and higher advanced than that *Semen* that is or may be sufficient for Insects, & *sine convenienti receptaculo avolabunt spiritus vitales, & ex interventu vel minimi frigoris mortuum & infecundum evadet*; but the *Semina* of Insects are more viscous and less volatile, in so much that their *Semina* will remain all the Winter in caverns and holes, and yet be fruitful the next Spring.

3. Again, the *Semen Insecti* being so small a Particle, and having as I may say so small a portion of Soul in it, is soon formed and brought to maturity: We may learn this in their univocal productions, or *ex coitu*.

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Scaliger tells us, *Exercitat.* 191. l. 2. that the Glowworm brings forth his Eggs *postridiè post coitum*; *Malpighius* in his curious Disquisition touching the Silkworm tells, that *quarto post coitum die* the Female brings forth ordinarily above 300, sometimes above 500 Eggs, and these will lie all the Winter, and with the warm heat of the Spring and some other assistance will prove vital, the next Spring; and *Aristotle*, *Hist. Animal.* l. 5. cap. 27. tells us, that *Aranea statim post ova parta incubant*, & *triduo peragunt*, & *quatuor septenis diebus iusta accipiunt incrementa*; & *ibid.* l. 6. cap. 37. tells us, that *Mures si salem lambunt pariunt sine coitu*, and that even their young have been found with young before they saw the light. By all which it is evident, That although these little *Molecula seminales* will retain their fecundity longer than the Eggs of Birds, even a whole Winter, and possibly longer; yet when they have obtained a convenient *Matrix*, and the warm cherishing heat of the Spring, the formation, production, and maturation of Insects, and of that *Semen prolificum* which they univocally yield in their regular production is speedy and hasty; and consequently, that spontaneous Seed by which they may be produced, and the spontaneous production it self is soon dispatcht and perfected, a small portion and continuance of heat and time may perfect the whole process.

But it is otherwise in the perfect Animals, especially in those that are *Vivipara*, a long time is required for their formation and maturation, notwithstanding the great advantage of the place, and heat, and supplies of their formation and support, namely, the *Uterus foemineus*. Thus the same *Aristotle*, *lib. 6. Histor. Animal.* gives us an account, whereof some go above 18 Months, as the Elephant; some 10 Months, as Cows and Mares; some 5 Months, as Sheep and Goats; the least about 2 Months, as Dogs and Wolves: and this is one Reason that *Aristotle*, *Problemat. ubi supra*, gives, why these perfect Animals are not producible spontaneè, nor *sine conjunctione maris & foeminae, vel sine utero foemineo*. These *Uteri terrestres* fabled by *Lucretius* would never be warm or close enough for the production of those Animals who naturally are producible *in utero foemineo*, and the intervening Winter would soon make them abortive, especially on either side of the Tropicks, where the heat and cold have their vicissitudes: And therefore it was providently, though fictitiously supposed by *Cisalpinus*, that *Ethiopia* must be the only native Country for such spontaneous productions of the greater Animals and Men.

4. As the Earth was not a fit or competent *Arvum genitale* for viviparous Animals, so the nourishment, increase, and support of these viviparous Animals, *dum in utero morentur*, according to the very exigence and formation of these *Embryones*, cannot consist with any such spontaneous Productions: for besides the soft and warm *involucra* of the *Chorion* and *Amnios*, we know the very fabrick of their nature hath given them a means and Instrument of Nutrition, *per veram umbilicalem sanguinem maternum attrahentem & dirigentem*. This could never be supplied from any Terrestrial Veins; unless we should suppose that *Succus nutritivus* of the Earth to become menstruous, and converted into Blood or other suitable consistence for the nourishment of the *Embryo*, or without any Reason or Experience warranting it; so suppose that some other way of nourishment should be *in Embryonibus terrigenis*.

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5. Again, *post partum viviparorum*, *præcipue generis humani*, it is evident that naturally the *fetus* is weak, unable to support it self without the supplemental helps, care and superintendence of their Dams or Parents: some are blind, as Whelps or Kitlins; some are destitute of those teguments that are necessary to defend them against the cold, as many kinds of Birds, that stand in need of the hovering of their Dams Wings for a considerable time after they are hatched, and are utterly unable to provide their own food, but are hourly supplied by their Dams, without which they must necessarily perish: and generally all viviparous Animals that are of univocal production are for a long time fed by their Dams Milk, without which, or some other artificial provision subministr'd to them by the help of others, they could not support themselves after their production, as young Horses, Dogs, Calves, Lambs: But this is much more conspicuous in Humane Infants, who from the time of their Birth for many Months can neither go nor stand, nor procure their own food, but stand in need of the care of others to keep them warm, provide them covering, and preserve them from being destroyed with their own Excrements. But on the other side, those small Animals which are supposed to be spontaneously produced, stand in need of no other means for their preservation, being produced, but that heat and circumjacent *menstruum* by or in which they are produced: and although these spontaneous productions, being produced, seem to propagate their *Species* by the coition of their Sexes, yet for the most part these generated Individuals, Mice excepted, retain still that natural *indoles* to preserve themselves, without any other supervenient assistance than what was at first sufficient after their equivocal production; this we daily see in the Eggs of Silkworms, of all sorts of Flies, Caterpillars and Worms, which though in their secondary productions by Generation, yet being ripen'd to fœtation by the heat of the Sun, they live upon Leaves and Grass, and take their food without the care or assistance of those Parents that produced them; and carry along with them the indication of that Method of Life which might be consistent with the condition of a spontaneous production, which is no way competible to the condition of greater Animals after their production.

6. Again, though the Faculties and Organs of a sensible as well as a vegetable Life appear in the smallest Insects, yet it is but a weak and imperfect Life of Sensation, and very little advanced above the Vegetable Nature. And this appears by very many Instances, as namely, in their generation many Insects do seem to arise from Vegetables without any other production; and they seem to be little else but the *Flos vegetabilis nature*, the more pure, active, lively *Effluvia* thereof; as the Flies that grow in the little *Vesicula* of the Leaves of Elms and Currants; the Worms in the Galls of Oaks and the Burrs of Wild Rose, the Worms and Flies which grow in the husks of Burrs; yea many times the Parts of Vegetables divided from the Stock will turn into Animals, as the Seeds of Lavander kept a little warm and moist, will turn into Moths; the Plant called the Horse-tail laid into Water, will grow into an Insect. 2. This also appears, that as the several parts of Vegetables, the Leaves, the Branches as well as the *formatum semen*, are seminal, and productive of their *Species*; so many times the parts of Insects carry with them a
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Seminal Nature effectual enough to produce their *Species*, as hath been asserted by the Experience of many; which no way happens in perfect Animals. 3. This also appears in the manner of their Life; for we often see in Insects divided each part keeps its motion, as the several parts of Vegetables keep their animation; a Fly or Wasp whose Head is cut off, yet the residue of his Body will live a considerable time; Flies that seem dead either with Water or Cold, and continue so for some considerable time, by the Heat of the Sun or warm Embers will revive and return to Life and Motion; as a Branch torn from a Tree, that hath been severed from it three or four days or more, will resume Life by re-implantation and the Solar Heat: And whereas the Eggs of a perfect Animal, as of Hens, Geese, &c. will lose their Animatick Faculties being frozen or concrete with Cold, or being kept two Months or thereabouts: the Seeds of Insects will continue fruitful a whole Winter or more, and possibly as long as the Seed of Corn, Oaks, or other Vegetables; as is apparent in the Eggs of Flies and Silkworms, which though excluded in the last Summer will remain fruitful, and produce the Insect this Spring, and possibly some time after; so that they are in the next degree above Vegetables, and have a nature very analagous to them. But these things are not so in greater Animals of an univocal generation; this also appears in the great disparity of these degrees at least of perfection in the perfect Animal; above that of Insects of a spontaneous production: For though, as before is said, these little Animals have Faculties conformable to the Sensitive Life, so that we may plainly discover, at least in many of them, the Faculties as well as the Organs of Sense, Phantasie, Memory, Common Sense, Appetite, Passion, Local Motion; yet the more perfect and univocal Animals have greater strength and perfection in these Faculties, their Phantasie and Memory more exact, their Appetite more perfect and free; if I may so call it, they are capable of Discipline, which these smaller Animals are not: There is greater variety, complication, and curiosity in the state, frame and order of their Faculties, and a greater distinction and variety of operation in them than in the smaller Pieces of Nature. There are more Wheels, more variety and curiosity in their motions, more variety of ingredients into the Constitution of the *Automata* of the more noble Animals, than in the Insects that are *sponte orta*: so that for the Constitution of their Souls (the Principle of their Faculties and Motions) there is required a more curious, elaborate, and elevated Composition and Fabrick than in these minute Animals. And hence it is, that though it be not only possible but frequent that these Insects and minute Animals may thus spontaneously arise, yet it hath never been known so according to the settled Laws and Order of Nature: It is impossible these greater and nobler Animals can arise spontaneously, nor otherwise naturally than by the mixture of both Sexes, and a *Semen formatum* and *prolificum*, received and united *in utero fœmineo*, and impregnated as it were with that Specificall *Idea* and Formative Power derived from the Parents, and those other accessions which may elaborate, rectifie, and advance the Soul and its Faculties, and the Body and its Organs to their due proportion and perfection. And therefore there is no parity Reason in the production of Insects and perfect Animals, nor any Consequence to be drawn from the spontaneous production of one, to the

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like production of the other in any natural course, without the intervention of a Supernatural free Cause effecting the same besides and out of the road and course of Nature. And what may be said upon this account against the Consequence of the spontaneous production of other Animals from the spontaneous production of Insects, may with much more advantage be said against the Consequence of the production of Mankind by any natural spontaneous production; because the perfection of his nature, and the specifical excellence thereof, doth exceed the greatest excellence of other Animals far more than the noblest Animals exceed the Insects. And therefore as the spontaneous production of these Insects no way concludes the like production naturally possible in greater Animals, so if it were naturally possible, and *de facto* true that the greater Animals themselves were *sponte producibilia & producta*, it were not at all conclusive, nor deducible from thence that Mankind were producible naturally upon the like account. The nobleness of the structure of the Humane Body, the great curiosity and usefulness of most of his Organs, especially of his Tongue and Hand; the curious and useful configuration and disposition of his Nerves and Brain, the admirable variety and quickness of his Phantasy, the great retentiveness of his Memory, but especially the admirable power of his Intellect, Reason and Will give him a far greater specifical perfection above the most perfect Brutal Nature, than that hath above the meanest Insects: And therefore certainly, according to the ordinary Observations in Nature, and the Rules and Methods observable therein, requires the noblest and most advanced Method to produce it that Nature can afford.

But against these Reasons it may be, and is urged, That all these Observations and Inferences are bottomed upon the state and course of Nature, wherein we see things are in the state of things already settled; but in the first production of things it might be otherwise, and must be otherwise, if we admit an Origination of Mankind *ex non genitis*. And though in the ordinary course of Nature, as now things are constituted, the production of Mankind is *ex semine formato ab utroque parente deciso*, that his nourishment is *per venam umbilicalem*, that it cannot be otherwise now but *in utero foemineo*, that the state of Infancy now requires those adventitious helps that are above remembred: Yet in the first state of Humane Production all these Suppositions must be laid aside, as unaccommodate to that state; another Seminal Principle, another method of Nutrition, another state and habit of the *Fetus*, must be and may be supposed in the first production of Mankind than now is to be found in the World, wherein the order of things is settled in a regular Method. If it should be supposed that a Mouse or a Rat were produced *ex putri*, we cannot suppose any such *Semen*, or *Vena umbilicalis*, or that it lived upon the Dams Milk; all which are notwithstanding supposable and necessary, when that equivocal Animal afterward propagates its kind.

I answer, That as it is true that Mankind and other Animals had an Original, and an Original in quite another way than now it is, and *ex non genitis*; so it is unquestionably true, that those Processes, Principles, and Methods which now serve in the production of Humane Nature or other perfect Animals, are no way conceivable, or applicable unto the first

first production of Man or Animals. And therefore I must not only grant that these Modes of Production, Nutrition, &c. are utterly ineffectual and unapplicable to the first Origination of Humane Nature: But I must suppose quite contrary, that in truth it is impossible they should be the Modes or Order of that first Origination.

But it must be remembred whom it is that I am here contending against, namely, not against those that do, and that truly referr the Origination of Man to the Divine Power and Will, and a Supernatural production: but against them that are the great Venerators of established Nature, that think it below their Gravity and Wisdom to recognize any other Efficient but what they find in Natural Causes and Effects; nor any other Rule of things but what they see, that take their Measures of their Conceptions and Sentiments from what is obvious to Sense, and the common Observation of things as they now appear, and for the most part frame all their Conclusions accordingly. And therefore that which I herein contend for by these Arguments is this, That a Man that duly considers the natures of things, and makes the course of Nature and the Observation thereof to be the Rule and Guide of his Sentiments, though he be drawn by the necessity of Reason, to grant and conclude that Man must needs have an Origination, and that in another way than now he hath, namely *ex non genitis*; yet it is not reasonable for him to conclude that he had this Origination upon a bare natural account, as the Insects and *sponte orta* have, because it quite thwarts and crosses all the appearances of Nature, and is wholly incongruous to the nature of things as they now stand.

And a Man that makes such a Conclusion must needs offer violence to his own Reason and Experience, and depart from those Laws and Rules of Nature, which he makes his Guide, and the Compass by which he steers his Judgment touching things; and suppose that natural which is wholly different from what it seems: And consequently, if the reason and nature of things compel a Man to assert that Mankind had their Origination another way than that in which it now is, the same reason and nature of things duly and impartially considered, must needs evince that it had not its Origination from any either casual or meer natural course of things: But by the Power and Will of a most wise, intelligent, bountiful, free, and powerful Being; who according to his Wisdom and Goodness first gave being to Man, yea and all other things; *secundum intentionem & beneplacitum sue voluntatis*. And since it is apparently necessary for any Man that will admit the first production of Mankind to be totally in another Method than now, and since they that will suppose a natural production of Man at first, must necessarily suppose a different production from that which now obtains: And since no more is asserted by those that suppose its Origination by the Will, Power, and Institution of Almighty God; this latter Supposition is much more reasonable and explicable than theirs that suppose the first Origination natural, yet totally different from what now it is, which is the great thing I intend in this long process touching the Origination of Man.

C A P. VII.

Touching the Matter of Fact it self, whether de facto there hath been any such Origination of Mankind, or of any perfect Animal; either Natural or Casual.

THIS I propounded as a distinct Inquiry at the first, namely, Whether or how far forth we have any Evidence of Fact touching any such casual or natural production of perfect Animals, but especially of Man. But the truth is, that this is but an Appendix to the former Chapter; for if there be any credible Instance of any such Production, all or any reasoning against the possibility thereof is but vain; for what hath been naturally or casually, may be again.

But on the other side, if in all the Successions of the Ages of the World there hath not been any Experience or credible Instance of any such Production; but contrarywise, since Mankind was first upon the Earth, both Mankind and all perfect Animals have had their being by natural Procreation and Generation, by conjunction of Sexes; it is a frenzy for any Man that pretends to Reason, to suppose a natural possibility of that to be either from a casual or meer natural Cause, which never had any Instance of its being or existence in such a manner.

The World hath now upon the shortest Account lasted above 5600 Years, and within the compass of these Ages of the World there have been in many Nations, especially among the *Egyptians* and *Grecians*, Men of great Wisdom and Understanding, and singular Industry to search into the History of Nature, and many of them have had great opportunities to know very much therein: and since their times, especially the generality of the wiser and more inquisitive sort of Men being alarmed by the Writings of those that went before them, have made it their business to search yet farther, and the Learned in all Ages have left the Essays of their Learning, Reason and Observation to succeeding Ages, and if any Prodigy or considerable Production hath happened in their times, they have sent us the News of it: But never in all the Ages of the World since those 5600 Years hath there been any credible Relation either of the casual or natural production of a Horse or a Dog, much less of a Man or a Woman happening within the compass of that time, abating some Poetical Fictions and Fables that have no colour of any Authentick History or Authority: And therefore *Scaliger* well saith, *Exercit. 193. Si bos aliquando ex putri ortus, cur post hominum memoriam ex ejusmodi procreatione nullus extitit?* and therefore *Aristotle*, the wisest Pagan Philosopher that ever wrote, and the strictest observer and searcher into Nature, even upon the account of Experience and Reason tells us, *Lib. 3. de Gen. Animal. cap. ult.* that there never hath been, nor can be, according to the Rules of Nature, any such Production; though by way of Supposition that it some times had been, he gives us that *Hypothesis* of it that seemed to him most likely: And upon this very account, and partly because he was not acquainted with the Truths of God, or at least because he was not willing to acknowledge any other Original of things
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but by Nature, he took up the Opinion of his Predecessor *Ocellus*, touching the Eternity of the World, and of Mankind in it, and so absolved the difficulty of the Manner of the Origination of Mankind by denying it.

And therefore we have no reason to believe any such thing, since we find nothing in any Authentick History of any Man, or perfect Animal, since the first Being of Man upon the Earth hath been thus produced, abating the Fables of Poets touching the production of Men and Women out of Stones, by *Deucalion* and *Pyrrha*, cast over their heads; the Serpents Teeth sowed by *Cadmus*, the production of *Castor* and *Pollux* out of an Egg, and those forlorn Fables of *Beregardus*; of the Green Man found in *England* in the Den of a Wolf 500 years since; the Blew and Red Men of *Rabbi Elcha*, that came out of the Mountains of *Armenia*: And therefore for want of any credible or particular Instances of any such productions, *Casalpinus* supposeth, that they are in some unknown Mountains between the Tropicks, where the Heat of the Sun is more constant, fervent, and equable, than in Climates remoter from the *Equinoctial*; though he neither doth, nor can give any Instance of such a production there or elsewhere. To excuse this unexperienced Notion, and the difficulty of assigning any Instance thereof, they allude these ensuing Apologies.

1. That these Productions cannot be but under some notable Conjunction or Position of the Heavenly Bodies, which may be accommodate to such Productions; which Positions or Conjunctions not happening but after vast and distant Revolutions, the Experiment it self can rarely happen; and by length of time, before the like Revolution return, it is forgotten.

2. That those Productions could not be but in Matter excellently prepared and fitted for this production, which could not be but after some great and long continuing Flood or Inundation, that might prepare and dispose the Matter for the Activity of that great Revolution, and if these should not meet together, or in some convenient nearness, the production of Mankind and perfect Animals would be frustrated.

3. That in as much as provident Nature hath had for many Ages, and yet hath a sufficient *Semini* and stock, for the preservation of the *Species* of Men and perfect Animals raised by propagation and the mutual conjunction of Sexes, Nature is not necessitated to have recourse to this extraordinary way of peopling and furnishing the World, and therefore it cannot be expected but after some vast devastation, that may endanger at least the extinguishing of the *species* of things.

To these things I say first in general, That if Men shall upon such a Method of Arguing go about to establish a Supposition, that neither they nor any else have ever known or experimented, and make a Conclusion of a thing as natural, upon such Suppositions as never any Man knew or heard, to produce such effects, Men may assume any thing to be natural, which yet hath not footsteps in Nature bearing any analogy to it. But to the particulars:

As to the first, it is unreasonable to make such a Supposition, for since it is not possible for any Man to know whether there be any such Influence of the Heavens to effect such productions, unless by Experience and
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Observations of some Men, or some other way the notice thereof were given to Mankind, it being a Matter of Fact, that can no other way be known but by Experience or Revelation; and since the bare beholding of those Heavenly Bodies, being of that distance, can never without Observation of Events give us any natural estimate of their Effects, what they are, or may be; and since it must needs be granted, that such imagined Conjunctions, as may be effectual for such productions, are at vast unknown distances, and such as no Age before hath, or indeed can leave us any Memorial of; it must needs be a vain and precarious assumption, to attribute any natural Efficacy to any Conjunction whatsoever for such a production. The Ancient and Divine Historian *Moses* gives us indeed an account of the Origination of Man, and all other Animals, but not upon any natural causation or activity of the Heavens or Heavenly Bodies; but as he gives us the History of the Things, so he gives us the true Resolution of the Cause, not a natural but a supernatural Cause, namely, the Intention and Volition of the Great and Wise God; and to exclude any imagination of a natural or necessary Cause of these productions, doth not only tell us in express terms, that the production of them was by the Energy of the Divine *Fiat*, but also that the production even of Vegetables themselves, that seem to have the greatest dependance upon Celestial Influences, was antecedent to the Constitution of those Heavenly Bodies. 1. As the Supposition of such a Natural Causality in the Heavens is merely precarious, so it seems even to our Sense apparently false; for we see every year, without any other than an ordinary Conjunction by the Access of the Sun, Insects and Plants, *sponte nascentia*, do arise; and we know, that ordinarily in the compass or revolution of 800 or 1000 years, very great and considerable mutations happen in the Position and Conjunction of the Heavenly Bodies; and we know, that within the compass of Authentick History these Revolutions have happened above thrice, and since the latest *Epocha* of the Worlds Inception above five times; yet none of these great Revolutions have for any thing we ever knew or heard produced any one Horse, or Lion, or Wolf, much less any one Man, as a *Terrigena*. And therefore Experience (the best means to settle such an *Hypothesis*) doth not only not warrant it, but is evidently contrary to it, and denies it.

2. As to the second, the *Mosaical* History gives us an account of an Universal Deluge, about 4000 years since, which lay long upon the whole Earth; and the *Grecian* History gives us an account of two very great Floods, namely, the *Ogygian* and the *Deucalian* Floods; and every Year gives us an account of the Inundation of *Nilus* in *Egypt*, a most fruitful Continent, and near the Sun, whereby the Soil is made admirably fruitful; and there is scarce any Age but some great portions of Land are laid dry, by the recess of some parts of the Ocean, which had lain covered for many thousands of years before with the sea. And as the universal Deluge was as great a preparation of the whole Earth, so these particular Inundations and Recesses of the Sea left particular Spots of Land as well prepared for such productions as can well be imagined; and yet in no Age have we any Instance of any such production, abating the Story of the *Egyptian Mice* which concrete after the recess of *Nilus*, which yet of most hands are agreed to be Insects, and *sponte nascentia ex putredine*. Indeed

deed *Beregardus* tells us, *ubi supra*, out of *Camerarius*, that about *Cayro*, after the reflux of *Nilus* there are often seen divers Limbs or Parts of Mens Bodies; whether this be true or no, or if true, whether they are not only relicks of some Bodies swept away by the Inundations of *Nilus* out of their Graves or Sepultures, and torn alunder by the furious Cataracts of *Nilus*, is not clearly evident: But be they what they will, or whether the *Lusus natura*, yet they make nothing to this matter, unless *Camerarius* or some other had seen those *divulsa membra* come together, and configured into an humane Shape, and animated with a humane Life, which neither he nor any other have yet affirmed or pretended.

3. As to the Third, I say, 1. If by Nature they intend the great and glorious God, that most wise, intelligent, powerful Being, they do indeed in effect affirm what I have designed to prove, but do not make good their Supposition of such a Natural Cause as they declare in their *Hypothesis*, wherein they mean only that natural connexion and series of Causes whereby Natural Effects are naturally produced. And if they intend by Nature that unintelligent series or order of Natural Causes, or the blind and determinate Cause of Natural Productions; How comes that Nature to know when and where this necessity of Spontaneous Productions doth happen, or in what proportion, measure, limits or place it is necessary to be done? Such a provisional care requires a knowing and perfectly intelligent Being, that operates *ex cognitione, intentione, & voluntate*; which is not to be affirmed of Agents purely natural, who do therefore act according to a Law of necessity and determination, *non ex consilio & cognitione*. 2. It is plain, that Insects and Vegetables spontaneously produced, are produced every Year, and their production is as natural as the access of the Sun and the constitution of the Earth: These are procured every Year, whether there be any need of them or not, and possibly sometimes in greater numbers than is convenient for this inferior World. And although it be true, that the Divine Power doth intend, or remit, or manage these Productions *secundum regimen & consilium voluntatis*, yet it is most evident these Productions are ordinary, animal, and natural, without choice or design in inanimate Nature: If therefore these Productions be natural and periodical every Year, why should there not be as well productions of Men or perfect Brutes, if it were purely natural, as well as Frogs and Flies; since the former may be of more use, especially in many desolate places, than always the latter? How many great and vast Islands and Continents are there, especially in *Armenia*, which have no considerable number of Inhabitants, if any at all to people them? In *Ireland* there are great store of Wolves, and so there were anciently in *England*, till they were destroyed by the Industry of the Inhabitants: in *Ireland* their increase is by propagation, without any new production; in *England* they cannot increase by propagation, because here are none: How comes it to pass that Nature doth not produce new Wolves in *England*, as well as Frogs, Adders, Hornets and Wasps? If it be said, that Nature neglects it because they are noxious; as this is to make Nature an intelligent Agent, so it answers not the difficulty: For why doth she then not destroy the Species in *Ireland* upon the same account? But this is but a vanity: Nature as well intends the existence of a Wolf as of a Sheep, where the means of its production is equal,

equal, though Mankind prefer the latter, as more useful to him. If any thing therefore of this deliberative nature be to be found in the voluntary and intentional Regiments of things of this kind, it is to be attributed to the great and supreme Rector of the World, who doth work according to Counsel, Wisdom, and Will.

Upon the whole matter therefore I conclude, That as well by the reason of the thing, and upon true natural congruity, as also *de facto* and upon experimental Observations, Mankind, no nor the perfect Animals are not produced, nor producible by any meer natural Cause, as at this day, or in any Age or Time since their first Creation, otherwise than by a natural production; which is the Truth asserted by the Great *Verulam*, in his 9th Century, *in fine*.

As for the Heathen Opinion, which was, That upon great Mutations of the World perfect Creatures were first ingendred of Concretion, as well as Frogs, Worms and Flies, and such like, we know it to be vain; but if any such thing should be admitted (discourfing according to Sense) it cannot be, except you admit a *Chaos* first, and a commixture of Heaven and Earth: for the Frame of the World once in order, cannot effect it by any Excess or Casualty.

And as thus neither Casualty nor bare Nature cannot originate Mankind or any perfect Animal *ex putri*, so much less can Art. The Chymists tell us, that by re-union of separate Principles of Vegetables they will in a Glass revive a Vegetable of the same *species* at least in figure and effigies; this hath been pretended, but I could never hear any Man speak it that saw it done.

But never was any so mad, except *Paracelsus*, that could ever pretend to make up a Sensible Being, much less the Humane Nature: *Paracelsus* vainly and falsely pretended to the raising of an *Homunculus*, but yet not without the help of those *Naturales geniturae utriusque sexus*; wherein notwithstanding he lyed, as he did in many things else, which he never could effect notwithstanding his vain boasting of his Skill.

Upon the whole Matter therefore I conclude, That the Origination of Mankind, or of the inferior perfect Animals, neither was nor could be the Effect of Humane Art or Skill, as *Paracelsus*; nor of Chance or Casualty, as *Epicurus*; nor of Nature, as *Cardanus*, *Casalpinus*, and some other Recreants in Religion and Philosophy: But it was the free, powerful, and wonderful Work of the God of Nature, who made all things by his Power and Wisdom; and having made them, lodged in them and for them that pre-ordained Law of their Creation and Existence, which we commonly call Nature: That Nature indeed is the Law or Rule instituted and implanted by the wise and glorious God in things when made; but in the first Effectation of Mankind God Almighty, not Nature, was the Author. As in my Watch, the Law and Rule of its Motion is the Constitution and Position of its Parts by the Hand and Mind of the skilful Artist; but the Author or Efficient of my Watch is the Artist himself, and not that Motion that is as it were the Law or Rule of the Engin.

S E C T.

S E C T. IV.

C A P. I.

Concerning the last Opinion, attributing the Origination of Mankind to the immediate Power and Will of Almighty God.

IN the foregoing Section and Chapters I have performed these things :
 1. I have removed the Supposition of an Eternal Existence of the Humane Species, as altogether incredible, and indeed impossible.
 2. I have established consequently this Truth, That the *Species humana* had a beginning; and this I have done principally upon natural Evidence of the impossibility of an Eternal Existence of successive Generations.
 3. I have considered those Evidences of Fact, or Moral Evidences of the Inception of Mankind, and removed such as seem more fallible and less concludent, and subjoined such as seem to be of greater weight.
 4. Among these of the latter sort, I have considered the general Tradition thereof, both of the unlearned and learned part of Mankind, wherein among others I have considered the Opinion of those Famous Sects of Philosophers, the *Platonists*, *Epicureans*, *Peripateticks*, and *Stoicks*.
 5. Though I have made use of their common Suffrage, in order to the Proof of the Origination of Mankind, yet I have not allowed all their several Notions, or *Hypotheses*, touching the Method or Manner of their admitted Origination of the Humane Nature. And therefore, 6. I having thus established the *Thesis* in general, I have descended to the Examination of the particular *Hypotheses*, taken up by various Philosophers, touching the same Origination: And those I have distributed into these three Ranks; 1. Those that suppose an accidental or casual Production of Mankind, which was principally the Opinion of the *Epicureans*: This Opinion I have examined, and rejected as vain. 2. Those that suppose this Production to be Natural, or by the bare Concurrence of Natural Causes, as *Avicen*, *Cardan*, and some others; which I have likewise examined, and rejected as utterly inevident and false. 3. There remains therefore the third Opinion, that attributes the Origination of Mankind to the immediate Power and *Beneplacitum* of the Supreme Intellectual Being, namely, Almighty God; and this was the Opinion of divers of the *Platonists* and *Stoicks*.

This Opinion is in the general true, and agreeth not only with the Divine Doctrine of *Moses*, but with the exactest Measure and Rule of Reason, and the Light of Nature it self; and as it is utterly impossible, that Mankind should be without a beginning, so it is utterly inconceivable, that he should have any other Original but this.

But although this general Supposition be thus consonant to Truth and the Light of Reason, yet since the Manner of this Origination of Mankind by the Power of God depends meerly upon His own *Bene-*

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placitum, which might put forth and exert this Act of His Power, Wisdom, and Goodness; in the production of Mankind according to His good Pleasure, and the *Arbitrium* of His own Will. And since Mankind, having their Existence after this production, could never by his own Sense perceive or understand perfectly the Manner of his own production, and consequently the particular Method or Manner thereof could neither be attained by Humane Experience nor Ratiocination; we must necessarily either be utterly ignorant of the Manner and Order of the Divine Procedure in the Origination of Mankind, or we must know it only by Divine, or at at least Angelical Revelation, and not otherwise. So that though the general *Thesis* of the Origination of Mankind by Almighty God, be a Conclusion deducible by Reason, partly by the remotion of all other means as incompatible and insufficient for such a production, and partly by the observation of the Events and Effects in Nature; yet that this production of Mankind was in this or that particular manner, is a Truth distinctly cognoscible only by Revelation.

And hence it came to pass, that those great Searchers into Truth among the Heathens, being either not acquainted with the History of *Moses*, or not acquainted with the Divine Authority by which it was written, either delivered their *Thesis* generally, that Almighty God produced Mankind by His Power and Will, not explicating the particular manner thereof; or if they attempted a particular Explication of the manner, they ran out into very uncertain, various, and contradictory Explications thereof; which must necessarily be the consequence of such particular determinations, where Man hath not sufficient light to guide and direct him. *Zeno Citicus*, the Founder and Prince of the Sect of the *Stoicks*, a wise and a good Man, contented himself with this general Assertion touching this matter, as it is delivered us by *Censorinus*, in *Die natali*, cap. 4. *Zenon Citicus Stoica secta conditor, principium humano generi ex novo mundi constitutum putavit, primosque homines ex solo adminiculo Divini ignis, id est, Dei providentia, genitos.* *Plato*, as far as we can collect his Opinion out of his *Timæus*, attributes the Origination of Mankind to the immediate Causality of an Intelligent Nature: But going further into particulars, falls into conjectures, attributing the Ejection of the Soul unto the Great God, but the Fabrication of the Body to the *Dii ex Deo*, or Angels, it seems according to the Tradition of the *Egyptians*. And this hath been ordinarily the unhappiness of Mankind, without the light and guidance of Divine Revelation, that if they have at any time happened upon some found and substantial Truth, they commonly fix unto it Explications and Additions of their own, which many times, by their inevidence, absurdity, or incongruity, draw in question the Truth it self to which they are appendicated: Therefore to settle, and fix, and quiet the Minds of Men touching their own first Origination, and the Origination of this World, it hath pleased the Divine Wisdom and Goodness by the Hand of *Moses* to reveal unto Mankind, not only that the World and Mankind had their Original, and that they had their Original from Almighty God, as its Efficient both of the Matter and Form thereof; but also he hath therein declared the *Series*, Order, and Method of the production of all Things.

It is true, the two former, namely, That the World had an Inception,
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and had an Inception from God, is a Truth that by the diligent Improvement of natural Light and Reason is attainable; but the Manner and Order of this Effect is, as before is said, discoverable only by Divine Revelation: But yet though the Manner thereof is not discernable barely by the light of Nature or Reason, without the help of Divine Revelation; yet that Method and Manner once revealed, as it stands so revealed to us by *Moses*, carries a very great congruity to Reason; which though it cannot at first discover the Method or Order, yet it cannot choose but suffragate to the reasonableness and convenience thereof, being so discovered.

I shall therefore in what follows do these things; 1. I shall give an Account of that Method of the Formation of all things, and particularly of Mankind, as it is rendred to us by *Moses*. 2. I shall shew the reasonableness and congruity of the Scheme of *Moses* touching the Effect of Mankind, both in the general and particular notion thereof, and the prelation that it justly hath above all other the *Hypotheses* of other Men. 3. I shall deduce from the whole certain evident and necessary Conclusions, against those that deny the Existence and Providence of Almighty God. 4. I shall also deduce some Conclusions evincing the Reasonableness of an intended End for Mankind, or the Design of Almighty God in his Creation, and what may be reasonably concluded touching the same.

C A P. II.

The Mosaical History touching the production of the World and of Mankind, and the Congruity and Reasonableness of the Mosaical Hypothesis.

IN that short yet admirable History of the Creation delivered by *Moses* in the first Chapter of *Genesis*, he gives us an exact Account of the Origination both of Mankind and of the whole World, and therein and thereby he resolves all the Doubts and Difficulties which troubled the Heads of the wise and learned Heathen touching the same, and resolves and extricates all those inconveniences and perplexities under which the various *Hypotheses* of the Heathen World infinitely laboured.

1. He resolves us, That the World in that Constitution as now it is, was not Eternal, no not that part to which the Ancients attributed Eternity most, namely, the Heavens; whereby all the Foundations of *Aristotle*, *Ocellus Lucanus*, and others touching the same, and all their subtilties and struglings to support that Eternity, and to deliver themselves from those inconveniences that attended that Supposition are in a few words rendred vain and frivolous.

2. He resolves us, That as the World in its present form and structure was not eternal, so neither was the matter thereof eternal; which troubled *Plato* so much, who though he supposed an inception of the formation of things into their present order, yet could not digest an origination of Matter.

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3. He gives us an account, That Time or successive Duration was not eternal, but had a beginning, and that Motion, whose Measure Time was, had a beginning, before which it was not, because no *Mobile* was more ancient than the beginning of Time.

4. He gives us an account of a kind of production that the learned Philosophers knew not, a production *ex nihilo*, by Creation, by the Almighty God; which breaks and tears in pieces all those petite Axioms and superstructions thereupon, which they had been long time in weaving, and by which they formed much of their Philosophical Speculation: As the necessity of eternal Matter, because nothing is made of nothing; the necessity of eternal Motion, because every Motion must have some Motion antecedent the nature of possibilities, which, and many more being defumed from Generation as it stood in the settled course of Nature, and fitted and appropriated to it, are no way applicable to the first Origination and Production of Being by Creation.

5. He gives us the true Efficient of Being, and the manner of his Operation, namely, Almighty God, a most wise, intelligent, and free Efficient; and one that in the first production of things did not work *per modum naturæ*; or necessarily, or as a natural or necessary Cause, as the Sun produceth Light; but *per modum intentionis, volitionis, & electionis*; for he was before he created his Creation of the World, was in the beginning, namely of Time, and created Nature; but he was before that beginning, namely, without all beginning. But to pursue a little more distinctly the order of the Creation of things positively, and not barely negatively, the *Mosaical* History touching the Creation seems to be as followeth.

1. That in the beginning, the first *Apex* of Time which began with the Being of Matter, Almighty God created in one indivisible moment the first and common Matter of all this *Mundus aspectabilis*, the Heaven and Earth. *Vers. 1.*

2. That in that first Creation, and for some continuance of time or duration after this common Matter of all things lay indistinct and confused together, without any order or distinction, expressed by those words, *Gen. 1. 2. And the earth was without form and void, and darkness was upon the face of the deep: And in this common Mass and Chaos were contained the constituent Matter of the Celestial and Elementary World.*

Which solves the Dispute touching the disparity of the Matter of the Heavenly and Elementary World, which appears here to be the same in kind.

3. That this common Matter had these deficiencies in it, in and for some time after its production.

1. It was without Form and Order:
2. It was without Light:
3. It was without Activity, Life, or Motion: and
4. All that Superficies which it had, bore the greatest analogy to Water, though in that vast Abyss there was a confused mixture of other Matter.

4. That the Spirit of God moved upon the face of this great Abyss,
[*incu-*

[*incubavit super abyssi faciem* :]. What this Spirit of God was, whether the essential Spirit, the Third Person in the Holy Trinity; or whether it were a created Spirit, the Spirit of Nature, or as some will have it, the *Anima mundi*, created by God to digest, inspire, and communicate an active nature to this confused *Moles*, as some earnestly contend; or whether this Spirit of God were any other than the emanation of his Power, I shall not determin: But whatever it was, this Motion of the Spirit upon the face of this Abyss had these great Intentions and Effects upon this confused *Moles*: 1. It derived into it motive Powers or Energies, whereby the parts of it were agitated or moved, or at least rendred more obsequious to the agitation and motion of that active nature which was afterward created, namely, Light or Fire. 2. It did gradually digest and separate its parts, whereby they became more capable of disposition and order, according to their several designed and destined places, positions, and uses. 3. It did transfuse into this stupid, dead, and unactive *Moles* certain activity and vital influence, whereby it did in general affect that which *Aristotle* calls the common Life of Bodies, namely, Motion; and the several parts thereof were impregnated with several kinds of vital influence, varied and diversified according to their several parts and uses: As the gentle heat of the Hen seems to communicate a vital influence to the Egg, only with this difference, that the heat of the Hen seems to excite a pre-existing vital principle in the Egg, rather than to give it: But the incubation of this Spirit of God did not so much excite, as give a new vital power to the several parts of the *Chaos*; as the vital Soul in Nature communicates vitality and activity to the Seminal Particles: And this gives us an account how Activity and active Forms, Powers or Qualities were derived into Matter, namely, not from Matter it self, or such which is merely unactive and passive; but from another Principle, namely, the vigorous influx of this Spirit that moved upon the face of the Water. Whereby it is apparent that the *Vis*, Vigor, Activity or Energy that is in Natural Bodies and in the Universe, as it came from no other Principle than Matter; so it is an Entity of a distinct nature from Matter or material Substance simply as such, and indeed an Entity of a nobler extraction and nature than bare Matter or material Substance: So that in this Description hitherto containing the first *Stamina* or Rudiments of the Universe, we have 1. The Efficient thereof, Almighty God: 2. The manner of his efficiency herein, namely, Creation *ex non preexistentibus*: 3. The Matter of the Universe thus by Creation produced, the confused *Moles*, containing in it self the Matter of all things: 4. The disposition, or rather indisposition of this Matter, dark, stupid, and unactive: 5. The plastick, formative, digesting Principle that pervaded it, the Spirit of God moving upon the face of the Waters.

——— *Totòsque infusa per artus*
Mens agitat molem. ———

The first Rudiments of the World being thus laid, and thus prepared and influenced by the powerful Energy and Incubation of this Spirit of God; this divinely inspired Historian gives us in the next place the next succeeding order of Almighty God, producing and effectually raising out

out of this Matter the greater Integrals of the Universe, namely, the Etherial and Elementary Nature. *Vers.* 3, 4, 5, 6, 7, 8, 9, 10.

As in the order of Reason, it was but fit and convenient that the production and influencing of the Matter should precede the division, and distribution, and orderly disposing thereof; so it was equally reasonable and convenient, that the greater and more extensive parts thereof should be first laid out and disposed into their several stations and orders, before the smaller and lesser portions of Nature should be either produced or settled; and that the simple parts of this great *Chaos* should be first extracted, before the mixed and compounded Existences should be settled. For as the *Chaos* and common Lump of Matter was as it were the first Matter of all things, so the more simple and uncompounded parts thereof, the Etherial and Elementary Natures were as it were the *Materia secunda*, or *proxima* of the ensuing Productions, and in conformity to this first Divine Ordination of things, the instituted nature of Corporeal Beings, he did observe the same method or order still in the Generation of things. Wherein we may observe, that the greater and more comprehensive Rudiments and *Stamina* are laid, and in some good measure formed, before the lesser and derivative parts are formed and compleated; as we shall have occasion to observe when we come to consider the *processus generationis* of Man and Brutes.

And now to come to those greater Productions, which are principally these; the Light, the *Aether*, the Air, the Water, the Earth. First therefore touching the Light, *Vers.* 3. *And God said, let there be light, and there was light; and God divided the light from the darkness, and the light he called day, and the darkness he called night: and the evening and the morning were the first day.*

Herein it might be fit to examin, 1. What this Light was: 2. How it was produced: 3. How it was disposed or ordered: 4. In what order and character of time it was so produced and ordered.

Touching these briefly, and first touching the nature of this Light. We may observe in Fire two great operations or effects, first, Heat, secondly, Light: It should seem that active Element, as it is commonly called, or rather, that powerful, vigorous Entity, or *Vis ignea lucida & calefactiva* was produced by the Incubation of the Spirit of God upon the face of the Abyss, and diffused through the confused Particles of the *Materia Chaotica*; and that it was the great Instrument which that Spirit did both communicate and use for the preparation, digestion, and agitation of that Matter: but this fiery nature being mingled and dispersed through the Matter, though it had one of its useful effects, namely, Heat; yet it neither had nor could have Light, at least till it were in some measure disintangled and severed from the *Moles* of gross Matter, with which it was confounded and mingled; and till the lucid and flammeous particles, or rather *Vis ignea & lucida* were lodged in a fit Vehicle for its emission. So that in the work of this day Light was not created, but only a considerable part thereof separated from the grosser Matter, and disposed into an apt Vehicle to contain it. 2. And this answers partly the second Inquiry, namely, How it was produced: not, as it seems, by Creation; but the powerful *Fiat* of Almighty God called the Light out of Darkness, that is, separated and severed the most lucid fiery

fiery nature, and invested them with fit Vehicles defumed out of the *Materia Chaotica*, whereby great part of that flammeous and lucid fiery nature which was created by the Incubation of the Spirit of God, was in a great measure discharged from the bond and incumbrance of the grosser Matter, and rendred useful for the beauty and service of the Universe; but yet so, that there remained still in the parts of the *Moles* a sufficient stock of connatural Fire and fiery Particles for the heating, agitating, and digesting of their several parts for their several uses and ends. As to the Third, it should seem, that 1. This luminous nature was lodged in a suitable Vehicle to derive its Light and Influence to the exterior Superficies of this *Moles Chaotica*. 2. That it was put into a circular Motion, whereby in the space of a Natural Day it visited the whole *Expansum* by successive rotation; so that as by its presence in any part of the Chaotical Horizon it made Day, so by its absence there-from it caused Night, as the Sun doth at this day. And this diurnal Rotation of this luminous Body was really such, because there could not be otherwise that which the Text supposeth, *viz.* separation of the Light from the Darkness, and thereby the distribution of Day and Night; so it was convenient, for the better digestion and preparation of the remaining indigested parts of Nature. For doubtless that Light was of a very great and penetrating Influence, being as it were the *Flos* and Elixir of that most active and powerful Element. 4. The Time and Order wherein this production of Light was, is said to be the first Day: what portion of duration the disorderly *Chaos* had before this first production is utterly uncertain, because not revealed; possibly it might be a very long time, but the perfecting of the World in its formal order and *constitutum* seems to be in the compass of six Natural Days, and the first Days Work is this of Light.

And although we must finally resolve the ordering and methodizing of all things to the *Divinum beneplacitum*, whose Wisdom and Ways are unsearchable and past finding out, farther than he is pleased to reveal them; yet it should seem to be very consonant to the reason of things, that this eduction and circulation of the Light should begin and be continued at least for the first three Days of the World, without parcelling or distributing into those Luminaries of the Sun and Stars: For doubtless the collection of this lucid, fiery, active nature into so great a Body as probably it was, had even naturally a most forcible energy, influence and penetration into the subjected *Chaos*, and strangely prepared it for its ensuing offices and uses. Although we must ever with all humility acknowledge, that the Great and Omnipotent God needed not the subsidiary Instrumentalities of Nature to compleat his Work, but could do all things immediately, as he did most evidently in many of the productions of Nature; yet if he were pleased to use this order in things, we have reason to believe, that though he needed it not, yet when we see it done, it was certainly so done with most exquisite Wisdom and Reason: He could in the first moment have produced the whole World compleat in all particulars, but he chose not so to do, but did things in a successive order of six Days, and in such a Method as was most agreeable to his good pleasure and infinite Wisdom. What became of this Fiery Luminous Nature and Body, we shall see in the fourth Days Work.

2. The

2. The Second great Integral seems to be that great and vast Body, consisting of the Air and *Æther*, called the Firmament; *Vers. 6.* And God said, Let there be a firmament in the midst of the water, and God made the firmament, and divided the waters which are above the firmament from the waters that are under the firmament, and it was so; and God called the firmament heaven: and the evening and the morning were the second day.

This word that is translated in our *English* [Firmament] is rendred by Linguists understanding the propriety of the word, to be *Expansum* or *Expansio*; and much controversie hath been, what is meant by the Waters above the Heavens; some supposing a real existence of Waters above the Starry Heavens, to cool the heat contracted by them or their rapid motion; others conjecturing it to be the Clouds, which are above the middle region of the Air: both improbable enough, the former a meer imagination, the latter little more; for, at this time, it is apparent there were no Clouds, neither had it rained upon the Earth. *Gen. 2.6.*

It seems therefore that this *Expansum*, rendred here Firmament, is nothing else but that limit or boundary between the more refined, liquid nature which we usually call Air and *Æther*, and the grosser or fluid Element properly called Water. So the Firmament was nothing else but that *Expansum* of Air and *Æther* that are contiguous to the Superficies of the Water. The Reasons that induce me so to think (which also explicate the Notion of the Supposition) are these:

1. Because frequently both in the Language of the Holy Scripture, and of divers of the ancient Heathen Authors, the whole *Diaphanum* of the Air and *Æther* is in one common appellation called Heaven; which is the denomination here given to this *Expansum*, (God called the Firmament or *Expansum*, Heaven:) thus we have frequent mention of the Fowls of the Heavens, the Clouds of Heaven, which yet are situated in that part of Heaven, which is the *Aiery* Region. And again here, *Vers. 14.* the Sun and Moon are said to be great Lights placed in the Firmament of the Heaven, which are yet placed in a Region of the *Æther*, though above the Atmosphere and the region of the common Air, yet are far below that liquid region of the *Æther* wherein the Stars move: and *Vers. 20.* the Fowls habitation is said to be in the open Firmament of Heaven, which yet fly no higher than the lower region of the Air. So that the Heaven, and the *Expansum* here called the Heaven, seems to be that great *Expansum* of the *Diaphanum* including the more sublime and pure part thereof called the *Æther*; and the grosser and lower part thereof called the Air, and the Waters above the Firmament were that refined, rarified, liquid Matter, which was *Æther* and Air; and the Waters below the Firmament were those gross and fluid parts of Nature called ordinarily Water.

2. Because it appears, *Vers. 9.* that the Waters which were gathered together in the Constitution of the Air, were the Waters under the Heavens, Waters that were next contiguous to that common *Expansum* consisting of Air and *Æther* called Heaven, there was nothing interposed between that fluid Water which constituted the Sea, and that common *Expansum* called Heaven, consisting of Air and *Æther*.

3. It seems that the great *Moles Chaotica* was in its appearance and external consistency of a waterish nature; for it is said that the Spirit of God

God moved upon the face of the Waters, which though it contained the confused Mass of all things, as well those that grew into a more solid consistence, as the more reformed or subtil Matter; yet in its first deformed exhibition of its appearance it had the shape of Water, and therefore *Plutarch, de placitis Philosophorum, lib. 1. cap. 3.* tells us, that *Thales Milesius* held that Water was the common Principle of all things; which Position he learned partly by the Analogy that he found therewith in things existing, whose first Rudiments and last Resolution seems to be a watry or fluid substance; and partly by Tradition from the *Egyptians*, or rather from the *Hebrews*, whose first habitation was in that Country.

And the manner of the resolution of this Aqueous appearance into *Aether* and Air seems to be this: This great aqueous Chaotical Mass contained in it Particles of various natures, some more feculent and gross, as the Earthy Particles, which floated up and down in it till they were driven down by the Fire and Heat, or otherwise by some disposition or agitation of that Incubation of the Spirit of God; were disposed and subsided in the middle of this Aqueous substance, which became in time the *Moles terrestris*: Other parts less feculent than these resided in a Region or Circle next to that grosser and more feculent Sediment; but by virtue of the Divine Disposal the Incubation of the Spirit and the Energy and Efficacy of that great circulating Fiery Nature, which was maintained in a continued rotation about the *Massa Chaotica*, called Light; and that internal, hot, and fiery Nature that still resided within the Body of the *Massa Chaotica*, the more subtil and pure particles of this Watrish Matter were separated, divided, and exhaled from it, and constituted that Consistency that is called the Air and *Aether*, here called Heaven.

And this diaphanous Body of the Air and *Aether* thus extracted from the Water varied in degrees of Subtily or Rarity, according to the degrees of its elevation; the more high and elevated parts being more pure, according to the degrees of their ascent; and the lower more feculent and thick, and filled with more gross Exhalations and Vapours arising from the contiguously subjected parts; and therefore it is said, *Gen. 2. 6. There went up a mist from the earth, and watered the face of the ground.*

And I am farther induced to think, that those Waters above the Firmament or *Expansum* were no other than this *Aether* and Air raised and separated from the *Massa Chaotica*, upon these Reasons; 1. Because there seems to be a great congruity between the Water and the Air, in their quality of liquidity or moisture. 2. Because there seems to be a more connatural Transmutation of either into other; the Air, and for ought I know, the *Aether*, which is but a purer sublimated Air, by condensation easily re-assuming the nature of Water, and the Water by heat and rarefaction easily assuming the nature of Air, and by the continuance and constancy of that heat containing it self in that consistency. And from hence it is that the Waters were the common material Principle of both the Fishes and Fowls. And if we may conjecture, that great Inundation, *Gen. 7. 1.* was not by a new Creation of Water, but by the wonderful and powerful Condensation of the Region of the Air; which seems to be that opening of the Windows of Heaven, whereby great portions of the Aerial and

Ethereal Matter discovered themselves to be Water. 3. Because we have no other part of Holy History that gives us an account of the production of that vast Continent of the Air and *Aether* out of the Chaotick Mass but this place. And here we must observe once for all, That there was no Creation of Matter after the Beginning; it was all created in that moment of Beginning. 2. That from that Creation till the first Day, wherein Light was produced, there was that continued preparation, impregnation, disposition, and agitation of Matter by the Spirit of God. 3. That all the Productions of the Six Days (except the Creation of the Soul of Man, and Angels) were not by any new Creation, but by separation of the parts of that pre-existing Matter, formation of them, and composition and effecting of Beings out of the first created, disposed, and ordered Matter, by the Power of Almighty God, and the influencing them with those active Principles which we usually call Forms, Energies, and Active Qualities.

3. The Third great Integral of this lower World, especially in the Work of the third day, was the dividing of the Earth and Waters, *Vers. 9.* And God said, Let the waters under the heaven be gathered together, and let the dry land appear, and it was so; and God called the dry land earth, and the gathering together of the waters he called seas.

The Divine Historian herein brings us to the Formation of this lower Globe of Water and Earth, and the distinction thereof.

This portion of the lower World seems to be the whole residue of the visible Chaotical Mass, which by the former Rectification was reduced to a small portion, like the *Caput mortuum* after Distillation; for out of it had been before drawn those two mighty and large portions of Matter, namely, the Fiery, and Flammeous, and Lucid Nature imbodyed in a Vehicle sufficient to contain and receive it in the Work of the first day; and secondly, the *Expansum*, the vast Body of the Air and *Aether* in the Work of the second Day.

So that this Elementary portion of Earth and Water seems to be as it were the sediment and relique of the *Massa Chaotica*.

And those other two vast Extractions being drawn from it, it seems this lower Region of Nature consisting of an aggregation of Water and Earth by the Divine Disposition of things, either immediately, or partly by the instrumentality either of the ambient Fire, or by the implanted tendency of the grosser Particles to one common Center of this residue of a Chaotick Mass, the gross Terrestrial parts subsided into the middle of the Water; and though it was in bulk far greater than the Water, yet it had there two concomitants with it: 1. The Water by reason of its fluidity and penetration mingled it self, as far as it could at least, with the superficies of the Terrestrial Sediment, to some considerable depth into it, so far as it could pierce, until it were excluded by the denser coagulation of the Earth. 2. The Water did encompass the whole Terrestrial Globe to some proportionable depth or thickness, though not equal to the quantity of the Earth. So that as the circular Scales of a Pearl encompass one another, so did the several extracted great Integrals cover one another.

The first extracted Nature was the Light, the Fiery or Luminous Body, which must needs be uppermost, because first drawn off from the Chaotick Mass.

Mafs. The second, the *Aether* and Air drawn off, encompassing the remaining part of the Chaotick Mafs. The third, the Watry Consistence, left in a circular subsistence by the subsiding of the Ball of Earth into the common Center of the Universe.

And by this means the Earth was not at all conspicuous, but involved in an *involutum* of Water; so that it must necessarily be, 1. That hereby the whole Superficies of the Earth was covered with Water. 2. That the upper part of it must needs be a moist muddy substance, fluid and lubricous, like Slime or Mud.

The appearance therefore of the dry Land was by the excavation of certain *Sinus* and Tracts of the Earth, and exaggerating or lifting up other parts of the Terrestrial Matter; and by this means the Water subsided into those Caverns and Valleys prepared for its reception: Whether this excavation of the Terrestrial Body, or elevation of other parts thereof whereby the Water subsided, were immediately by the immediate Power of God; or whether he did it by the instrumentality of the Water, working room for it self in the more soft and penetrable part of the Earth, and exaggerating and raising Islands and Continents in other parts by such exaggeration; as we see is done at this day by the Ocean, producing Islands, and enlarging Continents: Or whether by the instrumentality of the Fire, either subterraneous or ambient, raising up the Earth, or what other immediate way it was done; most certainly it was done by the Will, Direction, and Regiment of the Divine Wisdom and Power: so that it is truly said, *Job 38. 10. He brake up for it its decreed place: Prov. 8. 28. He gave the sea its decree, that the waters should not pass his commandment.*

Hitherto the Divine History hath given us an account, 1. Of the *Materia prima* of all Corporeal Beings, the *Massa Chaotica*: 2. The *Materia proxima* or *secunda* of all other Corporeal Beings being the simple Elements, and the next Matter of all Mixtions or Composition: 3. The *Natura ignea*; calefactive, lucid, and penetrating the Elementary Matter: 4. The *Natura aetherea* and *aerea*, the *Expansum*: 5. The *Natura aquea*, or the Water: 6. The *Natura terrestris*, or the Earth. And then he proceeds to those mixed or compounded Natures, drawn out of those or some of those simpler Existences, the Furniture of the Earth and Heaven.

I shall therefore now proceed to his Description of the Production of Mixt Natures and Vegetables, in part of the third day; Celestial Bodies in the fourth day; Fish and Fowls in the fifth day; Brutes and Man in the sixth day.

1. Therefore touching the production of Vegetables, *Vers. 11. And God said, Let the earth bring forth grass, the herb yielding seed, and the fruit-tree yielding fruit after her kind, whose seed is in it self upon the earth; and it was so.*

Here we have the beginning of the Vegetable Nature; and mark, what I say concerning this, will be applicable with some variation to the Brutes and Fish. We have three sorts of Vegetables here described, 1. Some that seem to be of the lowest rank, and such as we do find oftentimes *sponte orta*, the Grass. 2. Those Herbs that are of a more perfect nature, which as they bear Seed, so they do not usually arise but by it. 3. Trees bearing Fruit and Seed, being the nobler sort of Trees;

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but this includes all kind of Vegetables, as well Trees that bear not Fruit or Seed, as those which do.

In the production of these Vegetables, these things are observable:

1. The Supreme Efficient, the Word of Command of the Divine Will was that which was the Supreme productive Efficient.

2. The subordinate Instrument [*germinet terra*] wherein we have these two great Truths delivered. 1. That the Earth yielded the Matter of Vegetables. 2. That the Earth was now impregnated to be an active Instrument to this production, and concurred therein, at least instrumentally, with the Supreme Efficient, and that Activity that was in the Earth did not arise merely from the Matter, for that in the beginning was purely passive, but 1. by the Fecundating Principle, the Spirit of God moving upon the Face of the Chaotick Matter; 2. by the powerful Energy of the Fiery and Luminous Principle, that partly resided in the Earth, partly incompassed it; 3. but principally by the Efficacy of the Word of the Divine Command, which was no other but the determination of His Efficacious Will.

3. But though the more solid Matter of these Vegetable Productions was the Earth, yet it was the Earth conjoined with that vigorous Fire, which was mingled with that active Air or *Aether* that was interspersed in it, and that fruitful Water which remained conjoined with it.

4. That this Production was not by any formed antecedent Seed dispersed in it, but immediately, the Vegetable Individuals were antecedent to any *Semina* that might be productive of it; and according to the true Method of Existence of Things in their first Origination, the Herb and Tree were the Cause, the Original of the Seed, the Seed was not the Original of the Herb or Tree, though in the secondary production by generation the *Semen* precedes the thing generated, according to the Order settled after the first production of things, which doth reasonably solve the Dispute of *Plutarch*, Whether the Hen were before the Egg, or the Egg before the Hen?

And as the Supposition, that the first Principle in the Origination, either of Vegetables or Sensitives, to be *ex praeexistente semine* seems incongruous and unreasonable, I mean as to perfect Vegetables or Animals, so it is idle and needless: For certainly the same Infinite Power, that could form a *Семя ишточит*, to be the immediate Principle of an Animal or Vegetable, in the primordial Origination of them, could with equal facility form perfect Individuals of the several *Species*, and endue them with a prolific power of propagation of their kinds, by seminal Principles decised from them; and no lesser Power and Wisdom was required to mold up a specific operative *Semen*, than to frame the Individual or *Species* to be produced by it.

5. The Supreme Power of the Great Efficient of Vegetables, as well as Animals, was seen in this, in that it determined their *Species*, which, Matter alone, nor any Universal Cause purely natural, could never have done, in respect of their universal common indeterminate Nature, which could never fix nor settle in any determinate specifick production. Therefore, in that the Individuals of Vegetables, Fish, Fruits, and Birds, as well as Men, were made after their kinds, it ascertains us, that this Origination of things was by a Wise, Free, Intelligent Being, full
of

of Power and Wisdom, acting *secundum intentionem electionem, & voluntatem*.

6. By virtue of this Divine Intention, Ordination, and Command, these three things were settled touching Vegetable Natures, (which is also true concerning Animals, as to the two latter of them at least) 1. The Earth was endued with prolifick vital Energy, whereby it was enabled with the vigorous assistance of the Fiery Nature included in it, and accompanying it, to put out many spontaneous productions of some ordinary Vegetables, and probably of some Insects, and to exhibit a *succus nutritionis* to support all kind of Vegetables and many Animals in their vital existence, 2. The Individuals of Vegetables of all sorts, as also of Animals, Fishes, Fowls, Insects, and Man, were in a moment of time produced in their full and perfect complement, laden with their Fruit and Seed, without ruining the natural gradual process of Maturation, which was to ensue in the course of future Generations; and this could not be done, either by force of any natural fecundity that was then in the Earth, or the bare strength of the formed natural accommodation of Light or Heat; for though it be true, that the natural fecundity and heat of some Climates, and also artificial fecundations of Matter, may conduce much to the acceleration of Maturity, yet it is not imaginable, that these could be ripened into the full growth and burden of Fruit in the period of a Day, but by virtue of a supernatural Efficient and Power, namely, the Energy of the Divine Command, [*Germinet terra, &c.*] 3. The third admirable Demonstration of the Immediateness of the Divine Power, Wisdom, and Ordination, is this, That Vegetables, as also Animals and Mankind, were endued with a Power, Faculty, and a certain Law fixed and radicated in them, to transmit their specifical Nature to succeeding Individuals by propagation and seminal traduction, whereby their *Species* might be preserved, and this was done by force of the Divine Institution and Benediction; the Vegetables were produced with their various *Semina* in them, ready formed for their several specifical productions, in their full and perfect stature, *quasi per saltum*, and endued with a prolifick power of multiplication of their kind, by virtue of that Sovereign Institution and Commission [*Be fruitful and multiply, and replenish the Earth,*] *Gen. 1. 22, 28.*

2. I come now to the Fourth Days Work, *Verse 14, 15, 16,* [*And God made two great Lights, the greater Light to rule the Day, and the lesser to rule the Night, and he made the Stars also.*] It is true what I before observed, that first Matter of all things corporeal was made, and this only was properly Creation or making out of nothing, and all corporeal things, that were made within the compass of the Six Days, was Creation only *per analogiam*, for it was only separation and distribution of that Matter which before existed in the *Materia Chaotica*, or else an elevation or rectification of some parts of that Matter, or a composition out of it or of some parts of it; it was *effectio* or *creatio secunda*, not *creatio prima*; and though the Word [*Create*] be applied to some things that were thus effected, as *Verse 21.* yet it is not purely *creatio prima*, or *ex nihilo*, but *creatio secunda ex praeexistente materia*.

Now, What was the Matter of these Heavenly Bodies, the Sun, the Moon, the Stars, for in this Fourth Day all the Matter of the *Chaos* was before

before distributed into these four Simpler Natures, Light or Fire, Air or *Æther*, Water, and Earth?

The first Matter of these Heavenly Luminaries therefore was the common *Chaotica materia*; but the *Materia proxima* out of which they seem to be constituted, were principally those two great Natures which were separated from the *Chaos* the first day, *viz.* The Fiery Nature imbodyed in a suitable Vehicle, and the second day the *Æther* or Aery part: these two great Integrals of the first Universe were far greater than all the rest of the Chaotick Matter, and therefore might very well subminister the principal and predominant Matter for those great and vast Luminaries the fixed Stars, the most whereof are far greater than the Globe of Earth and Water: But to the Constitution of the Planetary Bodies, which seem to be more gross than the Stars, there was a greater proportion of more gross and feculent Matter added to the Fiery and Aerial Particles in their coagulation, though in some of them more, in some less, according to the various degrees of subtilty and grossness of their constitution.

And these goodly Bodies being formed and molded, it should seem that that great and mighty flaming Light which was made or produced the first day, and for the two ensuing days had rolled about the rest of the Chaotick Mass, was by the Glorious God distributed into those several Heavenly Vessels of the Sun and Stars, who succeeded unto, and as it were inherited that primitive Light now divided among them, according to their several measures and uses.

: For although the Almighty Wisdom and Power could have made all this Fabrick of the World in its full complement and perfection in one moment, and although he produced and perfected Vegetables, Brutes, and Man in one moment, without the gradual procedures through those several stations and degrees which Nature now observeth, and so he could have done in the production of all other the Integrals of the Universe; yet he seems in some parts of this *Processus formativus* of the Universe to use sometimes such Methods, Means, and Instruments, and such Times, Periods, and Orders as might seem to bear in some measure a congruity to a Natural Procedure; thus he used that Motion or Agitation of the Spirit for the ripening and influencing of the vast Mass; he first begins with the production of those more simple constituent Particles of Matter which might yield Matter suited and prepared to Mixt Natures.

And it is not unreasonable for us to think that this great flaming Light in the first three days of the Creation was used as a most suitable Instrument for the Rarefaction, Digestion, Separation, and Distribution of the remaining part of the Chaotical Matter in those greater Agitations that it had in the production of the *Æther*, the separation of the Water, and the arefaction of the Earth; which Processes required a more severe and violent, active Instrument than was necessary, or indeed suitable to those smaller Mutations which were after made; and probably if that piercing and great Lucid Nature had continued its Revolutions about the World, it would have been too strong and violent either to the production, or conservation of those Animals and Mankind that were now to be produced.

And

And so the diffused Light that circulated about the Universe, is now this fourth day distributed into these several Heavenly Bodies; 1. Because now its use in that former state and method of its existence ceased. 2. It was now for the use of the Universe to have it distributed and ordered into those several Vessels, the Sun and Stars, that might with a gentler and better regulated Heat and Motion influence the World. 3. It was now more for the Beauty, Order, and Ornament of the Universe, for the Glory and Honour of the Divine Wisdom, Power, and Goodness to distribute this Light into several Vessels, and according to various measures and proportions, and accommodated with several Motions; than to keep it in one vast and terrible Body circulating the Universe, which unrefracted might have been too penetrating and violent to the other parts of Nature.

And this seems to be the Method of the Origination of the Heavenly Bodies: For though the first Verse tells us, that *In the beginning God made the heavens and the earth*, we have no reason to suppose that the Etherial Bodies and the Heavenly Luminaries were completed in the moment of Time, (whatever may be conjectured touching the *Cælum Empyreum*;) for it is evident that Light the first-born of the Universe was not made till the first day; the *Expansum* or *Æther* till the second day; nor the Heavenly Host, the Planetary and Fixed Stars till the fourth day.

I shall not here contend much touching the System of the Universe, whether the Earth be the Center thereof, or the Sun, whether it consist of so many several Systems or *Vortices*, whether every Fixed Star hath its *Vortex*, and the Sun the Center of the Planetary *Vortex*; only thus much I shall say, 1. That this Divine *Hypothesis* delivered to us by the hand of *Moses* seems wholly to contradict the Supposition of Solid Orbs, and strongly concludes that the Heavenly Bodies are moved *in liquido Æthere*. 2. It seems rather to countenance that System of the Universe that supposeth the Earth to be the common Center thereof, than the the imaginary *Hypothesis* of *Copernicus*, *Galileus*, *Kepler*, or *Des Cartes*. 3. That it utterly contradicts the *Hypothesis* of *Aristotle* and *Ocellus*, and the *Pythagoreans* touching the Eternity of the World, or of the Heavens; and likewise the Fiction of *Democritus* and *Epicurus* of the casual Coalition of the Universe by the motion or interfering of Atoms.

3. I come to consider of the Fifth Days Work, touching the production of Fish and Fowls; *Verf. 20. And God said, Let the waters bring forth abundantly the moving creature that hath life, and fowl that may fly above the earth in the open firmament of heaven; and God created great whales, and every living creature that moveth, which the waters brought forth abundantly after their kind and every winged fowl after its kind; and God saw that it was good.*

The great Engin of the Heavenly Bodies being now constituted in that excellent state and order for the use and conservation of animal Life, God Almighty proceedeth in a most exquisite order for the production of Animals; and because the Waters were in themselves a more ductile, and possibly a more fertile Body than the Earth; and also, because *ceteris paribus*, the Fowls and Fishes are not of an equal perfection in their natures to the Brutes or Terrestrial Animals; for these have certainly a more digested constitution, greater variety and curiosity in their bodily texture,

texture, and a higher Spirit and Soul, of nobler Instincts, and more capable of Discipline than the Fowl or Fishes. Therefore, as the production of Vegetables anteceded the production of Animals; so the production of Animals aquatil and volatilis preceded the production of terrestrial Animals.

What may else be said in relation to this Days Work, I shall deliver in the Consideration of the next first Part of the sixth Days Work. Therefore,

4. The first Part of the sixth Days Work comprized the production of Terrestrial Animals; *Vers. 24. And God said, Let the earth bring forth the living creature after his kind, and cattel, and every creeping thing and beast of the earth after his kind; and it was so.*

The Reasons why Terrestrial Animals had their production after the Fowls and Fishes, have been partly before intimated, and shall be here somewhat farther considered: And they are these,

1. Although Almighty God be not bound or straitned in his Operation to the sequaciousness of the Matter, yet it is not improper for us to suppose that he may pursue the Laws of his own making, where it consists with his design and intention: The production of Vegetables by the Earth was indeed earlier; but then the energy of his Instrument the Light, perchance was stronger than after the distribution thereof into the Receptacles of the Heavenly Luminaries.

2. *Ad plurimum*, the nature of Terrestrial Animals was a more refined nature than that of Fowls and Fishes, and therefore as the Matter might reasonably expect a longer *mora* for its Concoction, so the Method of Creation, *ceteris paribus*, proceeded from the less elaborate Integrals of Mixt Bodies to the more elaborate, concluding with Man.

And this preference of the Brutes above Fowls and Fishes, appears 1. In the manner of their natural procreation, the Brutes being *ad plurimum vivipara*, the others arising *ad plurimum ex ovo*. 2. In the great variety of their bodily composure; the texture of the Bodies of Brutes being far more curious, and fuller of variety than others. 3. *Ad plurimum*, the animal Faculties of the brutal Soul are far more perfect than those of others, their Phantasies and Memories refined, they have greater and more lively Images of Reason, and more capable of Discipline than either Fowls or Fishes.

Now touching the production of Animals, whether Terrestrial, Aquatil, or Volatil, we may observe that they are in the ordinary course of Nature of two kinds: Some, which arise among us no otherwise, nor in any other manner than *ex semine*, which we usually call perfect Animals, and arising by univocal generation; others there are that be imperfect, arising spontaneously in the Earth, Air, and Water, as Worms, Flies, and some sort of small Fishes and watry Insects.

This being premised, I shall now set down some Suppositions which seem to me truly to explicate the production of these Animals, which are these that follow.

1. Although the predominant Matter in the constitution of Fowls and Fishes were Water, and in the constitution of Terrestrial Animals were Earth, yet that Water nor that Earth were not simply such, but were mixed and impregnated with the other Elementary Principles.

2. That

2. That all the *Species* of perfect Animals of all kinds were constituted in their several Sexes in the fifth and sixth day of the Creation, but yet we must not think that all those kinds which we now see were at first created, but only those primitive and radical *Species*: How many sorts of Animals do we now see, that yet possibly are not of the same *Species*, but have accidental diversifications, as we may observe in the several Shapes and Bodies of Dogs, Sheep, Pyes, Parots: which possibly at first were not so diversified; some variation of the same *Species* happen by mixt Coition, some by diversity of Climates, and other accidents.

3. That the first Individuals in their distinction of Sexes were not produced according to those Methods of Nature which they now hold, nor *ex aliquo præexistente semine*, but by the immediate efficiency of Almighty God, out of the Matter prepared or designed for their Constitution.

4. That they were made in the first instant of their Constitution in the full perfection and complement and stature of their individual and specific nature, and did not gradually increase according to the procedure of animal augmentation at this day: and the reason is, because those gradual augmentations arise from the Seminal Principle which gradually expands it self to the full growth; but here they arose not from any such Seminal Principle, but the Hen was before the Egg.

5. There was no mean portion of Time between their Formation and Animation, but both were together, they were living Beings, and living Souls, and living Creatures as soon as they were formed.

6. That consequently the Formation of the Body of these Animals was not as now it is, by the Formative Power of the Soul, which must needs be gradual and successive, as we see it is, and must be at this day in all natural Generations; but the Formation and Information of them was by virtue of the immediate *Fiat*, Determination, or Ordination of the Divine Will.

7. That in their Origination, the *Species* of these Animals were determined neither from the Matter, nor from the universal Cause, the Celestial Heat; but by the Divine Intention and Ordination.

8. That by the same Divine Ordination and Intention, the Faculties specifically belonging to every Individual were annexed and alligated to it, especially the power, *conficiendi semen prolificum, & speciei propaganda ex mutua utriusque sexus conjunctione*.

9. That although by the Divine Power and Ordination all these perfect Animals did arise from the Earth, yet that Prolifick Power of propagating of them was never delegated or committed to the Earth, or any any other Casual or Natural Cause; but only to the Seminal Nature, derived from their Individuals, and disposed according to that Law of propagation of their kind, alligated as before to their specific and individual nature.

And therefore it its perfectly impossible that any of these perfect Animals can be casually, or naturally, or accidentally produced by any Preparation of Matter, or by any Influence of the Heavens, without the miraculous interposition of Almighty Power; because the Earth, or those Influences have not this power concredited to them, but their production is irresistibly alligated to the *Semen innatum*

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and conjunction of Sexes; the Earth can as naturally produce a Sun or a Star, as it can a Man, or a perfect Animal.

10. Whether those imperfect or equivocal Animals were created or no, it is not altogether clear; possibly some might be then produced, whose kinds were likewise producible spontaneously after; but it seems beyond contradiction that all were not.

11. As by virtue of that general Commission or intrinsic Prolifick Power given to the Earth to produce spontaneous Herbs, as Grass, &c. it doth naturally produce such Herbs; so by virtue of that common Commission given by Almighty God to the Earth and Water, and to that Spirit of Nature diffused in it, it doth naturally produce those equivocal insect Animals which arise out of them.

The same Law of the Creator that hath eternally excluded, or rather not committed to the Earth or Water the power of producing perfect Animals, hath given and committed to them by concurrence of that Vital Heat of the Sun and the common Spirit of Nature residing in them, a Productive Power of some equivocal insect Animals in Matter fitly prepared.

Touching therefore the Origination of Insects I shall declare my thoughts as followeth; 1. That by virtue of the Divine *Fiat* the Earth at first did produce some Individuals of several kinds, which is imported under the words [*Every creeping thing after its kind.*] 2. That as I have before shewn, the greatest part of the Insects that are commonly produced, and seem to be spontaneous productions, are yet the univocal and seminal productions of Insects of the same kind. 3. That yet it is a certain Truth, that some Insects are, and have an Origination since the first Creation without any formal, univocal, seminal production; some out of Putrefaction, some out of Vegetables, some by very strength and *fracedo* of the Earth and Waters quickned by the vigorous Heat of the Sun, which infuseth into some Particles of Matter well prepared and digested a kind of Vital and Seminal Principle. Some have thought the very Sun and Earth are endued with a Vital, yea and with a kind of Sensitive Nature, and thereby enabled as it were to spin some prepared Matter into vital and sentient *Semina* for those insect Animals: But we shall not need to trouble our selves with that incertain Speculation; we are sure that the greatest part of the Superficies of the Earth being daily and hourly impregnated with the corrupted and dissolved Particles of Vegetables and Animals, is at least highly prepared for the spontaneous production of Insects and Vegetables of some kinds; and the benevolent Heat of the Sun hath a great influence thereupon to be the Instrument of Almighty God in these Productions: but it is his Sovereign Institution that committed to the Sun, the Earth, and the Waters and their Particles to produce some insect Animals, and therefore they produce them, as Worms, Flies, Frogs; but he hath not concredited or committed to them that primitive Productive Power of perfect Animals, nay not of some noble Vegetables, *sine praeexistente semine univoco.*

Thus we have considered the History of the Worlds production, and the

the reasonableness thereof. Now to the production of Terrestrial Animals, (for of the Creation of Man I shall speak in the next Chapter.)

It is true that there are two sorts of natural Integrals whose History is here omitted, and yet that omission not without great reason; because it seems their production was in a manner accidental and spontaneous, depending upon the various mixture of Materials formerly created, namely, Meteors and Minerals: the former consummated in the Aery Region by the apposition and mixture of divers Excretions and Exhalations of the other parts of Nature; for we neither find, nor have any cause to look for Clouds, Comets, or Meteors in the compass of the first six Days. The latter seem to be Concretions and Digestions in the Bowels of the Earth, either altogether or for the most part begun and perfected after the Six Days Work, by the energy of the external, and Celestial, and internal, and connatural Fire and Heat.

Some *Jews* and *Cabalists* there have been that have supposed those six Days to be of different length and extent from these Natural we are acquainted with, and that those six Days, especially the three first and three last thereof, differed exceedingly one from another, and that as the three last were of a far greater length and extension than our ordinary day or night; so the three former were exceedingly larger than the three latter of the six, and the computation of the whole by Six Days was only by a kind of Analogical Expression to give Mankind a distinction of the Order of Production; and they suppose, 1. That the Divine Author by this distribution of Days did not intend any determinate portion of Time, much less days or times conformable to the length of our days, but certain Mysterious Numbers of Times; and therefore *Philo Judæus* in his first Book *Allegoriarum Legis*, tells us, *Rusticana simplicitatis est putare sex diebus aut aliquo certo tempore mundum conditum, complevit sexto die opera, intelligere non debes de diebus aliquot, sed de senario perfecto numero*; and then takes a great deal of pains in illustrating the Mystery of that Number. 2. Because they would willingly introduce a kind of natural production of things according to a natural method, and gradual and successive procedure, without the Supposition of an immediate concurrence or interposition of a Supernatural Influx or Causation; and therefore because the separation of Light, the first Days Work, naturally required a great time; as also the rarefaction and separation of the *Expansum*, the separation of the Bodies of Earth and Water, and likewise the maturation and production of Vegetables out of it might require a longer time than some of the subsequent days Works, therefore the three first days were much longer than those that follow: And again, since each of these great Works attributed to the three latter days were great Works, required great digestion, and separation, and maturation of the Matter for the Heavenly Bodies; as also for the maturation of living Animals, and their production: that even those days might be conceived of a dimension or computation much larger than our Days, and possibly than our Months, or Years, or Ages. But these seem to be vain Conjectures, introduced meerly to exclude an intermixture of a supernatural concurrence in the speedy production and formation of things, and not warranted by the Holy History, but contra-

dicting it: For we have no reason to imagin that the sixth day was of any other dimension than the seventh day, wherein God Almighty rested; nor the fifth any longer than the sixth; neither was it at all necessary the days should be protracted to that length of time for two Reasons: 1. Because if we should be so vain as to suppose a long process, somewhat futable to what we now see in Nature, for the separation, disposition, and production of the Six Days Work; yet certainly there was a time intervening between the first Creation of the *Materia Chaotica* and the very inception of its complement into that Order that the Six Days Work exhibit to us; and although that time is not determinately set down, yet we may justly think it a long time: And again, in that long interval there was a powerful Agent subacting, disposing, and influencing the *Massa Chaotica*, expressed by the Spirit of God moving upon the face of the Waters; whereby if it were necessary to have such a preparatory process towards the formation of the World antecedent to such formation, it was not wanting here, and every Particle might thereby be so ripened and prepared that they might successively give their appearances in those portions of time wherein they are ranged by the Sacred History. 2. Although in the Creation of the World and the Integrals thereof, Almighty God seemed something to conform to the reasonable Order of Causes futable or congruous to Effects, and did not put forth such an immediate Activity in the Production of things as he did in their first Creation; this being done in an instant, that successively, gradually, and yet *per moram*: Yet he was not bound to observe all the Ceremonies and Formalities of Natural Effects; neither did he, but by his own immediate Power gave a greater expedition to the first production of things, than that which he instituted for the standing, fixed, and ordinary Method of future production and maturation of things to be generated after their first Origination: And as it was impossible without the apposition of a Supernatural Being and Causation, that the Matter of things should be created out of nothing; or being so created, could without the Operation of a Supernatural Intelligent Being raise it self up to the admirable Fabrick wherein it was finally perfected; so it is not reasonable to deny to such a Supreme, Supernatural, and Infinite Power an effectual maturation and compleating of things in those portions and orders of times that best pleased him, and which his Wisdom judged most agreeable to his Works and Ends. We find every Command of the Divine Will in the Creation of things answered by an immediate *obsequium* in the created Matter: If He say, *Let there be Light*; *Let the waters be gathered into one place*; *Let the Earth bring forth*, &c. the obsequious Matter presently answered the Command with a *Fuit ita*, It was so. Not as if there were any Vocal Command given out to the Matter, but the secret Command and Determination of the Divine Will governed the Matter into an immediate conformable Production, according to the *Idea* residing in the Divine Understanding; *He spake and it was done, he commanded and it stood fast*. This best became the Majesty and Sovereignty of the Lord of all things.

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C A P. III.

Concerning the Production and Formation of Man.

HAVING taken the former brief Survey of the History of the Creation and Formation of the rest of the Universe, I shall now proceed to what I principally intended in the discussion of that History, namely, the Formation of Mankind, *Gen. 1. 26. And God said, Let us make Man in our own image, after our likeness, and let him have dominion over the fish of the sea, and over the fowl of the air, and over all the earth, and over every creeping thing that creepeth upon the earth; so God made man in his own image, in the image of God created he him, male and female created he them; and God blessed them, and said unto them, Be fruitful and multiply, and replenish the earth and subdue it, and have dominion over the fishes.*

Touching the Creation of Man I shall observe these things.

1. The Efficient of this first Production of Mankind was Almighty God, by the counsel and determination of his own Will: The Creation of Man is ushered in with a Prologue unlike the Creation of other things, *viz.* by a kind of deliberation; not as if the Divine Wisdom stood in need of counsel, advice, or concurrence of others, or of a *mora deliberativa* with himself; for known unto him were all his Works from the beginning, and by one simple, instantaneous, and indivisible Act he foresees what is fit to be done, and judgeth and determineth the same: but it is added as a Mark of Attention, and an Elogy of Praelation of this Work of the Creation of Mankind above the rest of the visible Creatures.

Some of the Ancients have thought this Deliberation was real, and to have been made with the superior World of Heavenly Intelligences; *Nec (si fas sit ita loqui) Deus quicquam fecerit, donec illud expenderit in familia superiori:* and it should seem that the Opinion of *Plato* in his *Timæus*, That Almighty God did advise with the *Dii ex Diis*, or the Intelligences or Angelick Natures, and used their assistance in the Creation of the Bodies of Men, though he himself formed their Souls; seems to be derived from the inspection of the *Mosaical* History or Tradition of it, whereof he gave us his Sense or Exposition, that this [*faciamus hominem*] was by the concurrence or subordinate cooperation of Angels.

Others, with far greater evidence, do think it was the Deliberation and Conclusion of the Three Persons of the Holy Trinity.

And some again interpret it to be only a Majestick Expression touching Almighty God, *more regali*, in the Plural Number; but touching these Conjectures I shall say no more but only this, That the first Origination and Production of Man was by the immediate Efficiency of Almighty God, not as if God Almighty used any Manual or Physical Plasmation of a Man, as the Statuary makes his Statue, or as the Poets feign *Prometheus* moulded up his *molle lutum* into the Humane Shape, and animated him by diffusion of Fire into him fetcht from Heaven; but by the Word, or Determination, or *Fiat* of his Omnipotent Will Man was formed and made.

2. The constituent Components out of which he was made were of

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two kinds, 1. His Corporeal and Animal Nature was the same with the Matter of other Terrestrial Animals, namely, the Elementary Matter, whereof Earth was the predominant. 2. His Spiritual Constituent as I may call it (though in union with the Sensible Power it be his constituent Form) was a Spiritual Substance, created and infused by Almighty God, *Gen. 2. 7. And God formed man of the dust of the ground, and breathed into his nostrils the breath of life, and man became a living soul.* This Text gives us briefly, 1. The Matter of his Corporeal and Animal Constitution, the Dust of the Ground, or as elsewhere, Red Clay. 2. The Nature or Kind of this other constituent part, the Breath of Life, a Vital, Spiritual, Intellectual Substance or Nature. 3. The Union thereof to the Body, and Animal Nature breathed into him. 4. The result from that Union, Man became a living Soul, the whole Composition taking denomination from his nobler essential Constituent. And this short History gives us the best account that can be of the true Nature of Man, namely, that he consists of two essential constituent Parts, 1. His corporeal and animal nature, which though it were not only gradually but specifically different from, and advanced above the Brutal Nature both in the Elegance, and Usefulness, and Majesty of his corporeal Fabrick, and in the excellency and perfection of his animal Faculties, as in due time shall be shewn: Yet in his essential part he seemed to have a nature in some way common with them, both being material, and both their Faculties of the Animal Nature directed and subservient to a Life of Sense, and therefore corruptible and mortal in it self. 2. His Intellectual Nature, which is spiritual, immortal, created immediately by Almighty God; that as in his Animal Natures he was the highest of living, corporeal, and visible Creatures, so in his Soul or Intellectual Nature he seems to be constituted in the lowest rank or range of Intellectual and Immaterial Beings, by this means he seemed to be *Nexus utriusque orbis*.

I have before observed in the Order of Natural Beings with which we are acquainted; that there seems to be an admirable gradation in things, and the lower rank of Natural Existences have some rough draughts, and strokes, and shadows of those perfections which are in the superior: Minerals are a degree below Vegetables, yet they seem to have some shadow of the Vegetable Life in their growth, increase, and specifick configurations. The lowest degree of Life seems to be the Vegetables, yet in many of them and their Faculties, they seem to have some kind of rough strokes or draughts of the Sensitive Nature, and the highest advances of the Vegetable Nature seem to come up to the confines and borders of the lowest Form of Sensible Beings, and to participate of somewhat of Sense; which appears not only in the natural production of Insects out of the finest parts and effluxes of most Vegetable Natures, but also that some such things there are that seem in their very nature of Plants to have a kind of lower connexion of the Animal Nature in them; as appears in the Sensitive Plant or *Planta modesta*, and those Canes in the Kingdom of *Angola*, that are filled with a Worm growing from and continuous with it, called *Trombe*. Again, in the Animal Province there are divers sensible Insects, both aquatil, volatil, and terrestrial, that seem to be in the very next Rank of Nature to Vegetables: and again, some of the superior sort, especially of Terrestrial
Animals

Animals have *quandam imaginem & umbram rationis*, and are advanceable by Industry and disciplinable Acts to a great perfection, and seem to be the next rank of natures below the animal nature of Man, as Elephants, Horses, and some others; but the nature of Man, though in the animal part of him he is the highest rank of visible Animals; yet in his intellectual nature he seems to participate of the angelick nature, and is next below them in the specifical existence of Soul, *Psal. 8. 5. He was made a little lower than the Angels*, and participates of the highest degree of Animals and the lowest degree of Intelligences; participating of both natures, to keep as it were a continuity between the upper World and the lower, and to maintain a communion with them and between them.

3. We have here also the *Idea* or Model according to which the Humane Nature was framed, namely, after the Image and Similitude of God; wherein we are to take in Man constituted in his full and compleat nature, namely, in the union of his two Essential Parts, his Animal Nature, and his Intellectual. What this Image and Similitude of God was, or wherein it consisted, is variously disputed, I shall first consider what it was, and then what it is and was.

1. It was not, not any corporeal Similitude or Image; for the Divine Nature is incorporeal and invisible, and therefore hath no Image or similitude of that kind.

2. It was not any Image adequate to the Divine Perfection and Excellence, as the Impression in the Wax is the adequate Image or Representation of the Seal, and as large as it: for God's Perfections are infinite both in extension and intention, and no finite Being can be an adequate Image of an infinite Being or Perfection.

3. It was not an Image that takes in all the resemblance of the Parts of Divine Perfections or Excellences, as the little Image upon *Cesar's* Coin resembled *Cesar's* Effigies, or a new born Infant resembles a full grown Man; for neither the Perfections nor the Being of God do *convenire in uno aliquo genere univoco*, with those of Man: the Perfections of God are not representable by any created Being in a true propriety of their nature, no more than in their degree of intention or perfection.

4. Neither do I take it, that this Image or Similitude is only meant of that *Idea* of the Humane Nature in the Divine Understanding, conformable to which Man was made; for though this be true, yet it is not all it says, nor all that is meant; because it would give Man no greater preference than the very Vegetables that were made the Third Day, which were made according to the Ideal Image thereof in the Divine Intellect.

5. Neither do I think it was meant of the Second Person in the Trinity, who was the express Image of the Father, the brightness of his Father and the express Image of his Person; for although Christ assumed Humane Flesh, yet it was many Ages after: and in the Language of the Scripture and the Ancients, in the Creation Man was made like unto God, but in the Work of Redemption the Son of God became like unto Man: *Phil. 2. 7. Made in the likeness of Man.*

6. Neither do I think that the Image of God here meant was the greater World, the Universe, which though it be an excellent Image of the

the Divine Excellency, namely, of his Majesty, Power, Wisdom, and Goodness, and sets it out far more than any single created Nature can; especially if we take the Universe in its full comprehension both of the visible and intellectual World. And though it be true that Man is a kind of Abridgment, a little Abstract of that greater World in his Intellectual Nature, resembling in his Soul the *Mundus intelligibilis* of created Intelligences, and in his Animal Nature bearing an admirable Analogy to the *Mundus aspectabilis*; and so in both Natures conjoyned, being the little Image or Portraiture of the great and universal World: for though this is a Truth, yet it seems it was not the Truth intended:

7. Neither do I think it was intended of that resemblance which in his Intellectual Part he bore to the good Angels, who of any particular created Natures best resemble Almighty God; being pure, immaterial, intellectual, powerful, immortal, wise, and benevolent Beings: though this be also a Truth, that the Soul of Man seems to be the lowest rank of Angelical Natures, yet it seems not the Truth that is here intended: for it is plain that the Image of God here meant, is spoken with respect to the intire Humane Nature, and of the whole *Compositum*, as appears in the reason after given by God, upon the interdiction of Murder, *Gen. 9. 6.* which had been an improper reason if applied to the Soul, which is immortal, and incapable of death.

But the meaning of this Image of God seems to be this: That as all Excellency comes from that most Excellent Author of all Beings, in whom all Excellencies are lodged formally, or essentially, or virtually; so this Excellent Author did these things in relation to the Humane Nature: *viz.* 1. He gave him a capacity greater than any other visible, single, created Being to receive the noblest Excellencies: 2. That he gave him as great a Capacity as possibly might be consistent with such a nature to receive Divine Excellencies: 3. That he filled that Capacity with all those Excellencies that he was thus capable of, saving only that of a necessary immutability in the fruition of all those Excellencies.

Now these Excellencies with which the Humane Nature was filled, and which made him, as much as was possible for such a created Being, to resemble his Maker were these:

1. In the structure of his Body and Animal Nature, most singular Majesty, Beauty, Strength, and Usefulness.

2. In his Soul a whole Constellation of Divine Excellencies, *viz.* in the Nature of it, Immortality and Spirituality; in the Faculties of it, a light and clear Intellect, a free and incoacted Will: in all which he highly resembled the most intellectual and freest Being in the Habits of it, Knowledge in the Understanding, enabled by the noblest Object, God himself, and all other Objects of use and conveniency to him: in his Will, rectitude.

3. In his whole *Compositum*, perfect fruition of all that futable good to his nature, wherein he consisted in Happiness, Immortality, or a possible persevering in Life without dying, Power and Authority over this inferior World and all things therein, as God's Vicegerent upon Earth, in which respect Governours are said to be Gods: a sufficient power and strength as well in the Frame of his Animal Life, as in the sagacity and advantage of his Understanding, to exercise that Dominion and

and Sovereignty; and lastly, a due Order, Subordination, and Regiment of all his Faculties.

Of these Perfections some were accidental or adventitious to the Humane Nature by the Benignity of Almighty God, and concredited thereunto upon condition of his Obedience to the Command of God; and upon the breach of that Condition were either utterly lost, as the indissolubility of the Union of the *Compositum*, by one Man's Disobedience Sin entred into the World, and Death by Sin: Others were abated, as the Excellency of his Knowledge, Righteousness, the fruition of Happiness, the Perfection of his Sovereignty over the Creatures, the Gloriousness and Beauty, and much of the Vigour of his Body, the exquisite Order and Subordination of his Faculties; but his Essentials, the Immortality of his Soul, the Faculties of Intellection and Will, and the Natural Beauty and Usefulness of his Body remains, notwithstanding that terrible Concussion; whereof somewhat more hereafter.

4. We have the Method of this Production of Man; it was not by or from any meer Natural Cause, but by the immediate Command of the Divine Will, Wisdom, and Power: it was not from any *Semen* naturally, accidentally, or intentionally formed, and so by a gradual maturation and growth *ex utero terrestribus*, or as the *fetus humanus* is perfected at this day: For it was not possible that any such Seminal Principle should be formed casually, or by any meer Natural Cause, as hath been already shewn: And although the Divine Power could have perfected all, as well Man as the other Animals, by first forming such a *Semen*, and giving it either a gradual or speedy production, as Insects are at this day produced; yet 1. It was utterly superfluous to have used such a *processus formativus ex semine*, because it required no less than an Almighty Power to have moulded and fashioned, or actuated such a *Semen* as to have produced Man by an immediate Supernatural Formation and Production: and therefore since the same Power was requisite in both, it is not at all necessary nor reasonable to suppose so long a process as first to form a *Semen*, and by a Seminal Process to have perfected the Humane Nature, and the Holy History expressly imports the contrary. 2. If we suppose a *Semen* prepared by the Divine Power, that Production that must arise thereupon must either be immediate and sudden, if not absolutely instantaneous, or it must be gradual, and pass through all these spaces of Time, gradual Formation, and accession of Growth and Increase; as we see in *embryone & fœtu nuper nato*: We cannot suppose the former but we must suppose it to be otherwise than natural, and call in the Divine Power to effect it, as much as in an instantaneous formation, *sine precedente semine*: And we cannot suppose the latter, because it is expressly contrary to the description of the Humane Production, for it was done within the compass of the Sixth Day; and the formation and perfecting of the Humane Nature was immediately finished after the Omnipotent Command and Determination of the Will of God, it was no sooner said [*faciamus hominem, &c.*] but it was done.

It is true, in that ordinary Law which Almighty God hath instituted in Nature already established by him, there are regular, and successive, and gradual procedures, and it is convenient it should be so: and it is true also, in this short period of the Six Days Work, within which the

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Universe was finished, Almighty God observed a certain convenient Order, making that to precede which was fittest and most useful to precede in order to the production of things; but as to the speed and dispatch of Productions, the Almighty God used the Majesty that became the Excellency of his Greatness, and obsequious Matter presently yielded to the Power of his Command, *Fiat, & factum est*; Plal. 33. 9. *He said and it was done, he commanded and it stood fast.*

Therefore although now in settled Nature, and according to the standing Laws of the Divine Wisdom Man is first conceived *ex semine*, then lodgeth 10 Months *in utero muliebri*, wherein during that time he is gradually formed and perfected; and then after his Birth gradually increaseth, passeth through the impotency of Infancy, the weaknesses of Childhood, and the follies of Youth before he comes to a ripe and full age, yet it was not so here; in the same moment the Body is formed in its full and perfect nature, and the Animal Soul and Faculties together with it and the Rational Soul infused in the same moment, without any priority of Time, but only of Order and Nature: So that Man was at the very same moment a perfect Organical Body, with all his Nerves, Veins, *Viscera*, Bones, and Parts conformed, a Vital and Sensitive Nature joyned with it, and a Rational Soul infused, without first living the Life of a Plant, then of an Animal, then of a Man; the whole Scene was performed in one moment, and so it became both the Greatness of the Divine Majesty and Power; and so it was necessary to be in the first production of Man, although in the succeeding procedure of natural Generations it must be and was otherwise, because the supreme Wisdom and Will judged it so.

And although to any Man that will duly consider almost any thing, there must of necessity be another Rule or Law for the first production of things, than there is or may be in the ordinary regiment and governing of Generations when Nature is once established; yet the want of this Consideration hath bred all those vain Errors of those Philosophers that asserted the Eternity of the World; and of those others, who being not satisfied with that *Hypothesis*; but driven by a kind of necessity of Reason to acknowledge an Origination of Mankind, yet could not deliver themselves from fancying that Humane Productions must needs be as like those they now know, as they could well frame them: And therefore according to these Men the Earth must be conceived to be *Mater*, and the Sun *vice Patris*, and the Earth must have her *Uteri* and *Succus nutritius*, and the Increase of Mankind must be by some such gradual process as we see in natural productions or *sponte nata*; and they cannot easily bring their Minds to believe the instantaneous production of Man by the immediate Power of God, because it hath a gradual process in ordinary natural Generations: and yet the same Men can give themselves leave to imagin, *Hominem oriri posse sicut blitum*; though never Experience of former Ages since the existence of Men upon the Earth give us any Example of it, bating only the Fictions of some Poets.

Maimonides; lib. 2. cap. 27. hath observed this Mistake, and singularly confutes it, by evincing, That if Men go by this Rule of Judgment the nature of things in their Original, as they find them in their Constitution, being constituted, they will disbelieve the most certain Truths. *Neque argu-*

argumentari licet ullo modo à natura rei alicujus post illius generationem & firmam subsistentiam in perfectione sua ad naturam ejus eo tempore quo movebatur ad generationem; quod si verò his erras, plurima tibi orientur dubia & absurda, ut pro falsis habeas ea quæ vera sunt, & vice versa pro veris ea quæ falsa sunt; and gives this Example, Suppose a Child of a ready Wit, whose Mother died shortly after his Birth, should go alone with his Father into some uninhabited Island, where he was bred up without the sight of any Beast or Woman, and there should inquire of his Father, Quomodo & qua ratione facti sumus, existentiamque nostram accipimus? cui pater, Unusquisque nostrum generatur in ventre cujusdam individui speciei nostræ, nobis similibus, quod femina vocatur; in ventre autem existentes exiguum admodum primo corpusculum habemus, movemur, nutrimur, & paulatim crescimus, & vivimus donec ad certam quandam magnitudinem venimus; tum aperitur inferius in ventre porta quedam, & eximus; nec tamen postea crescere desinimus, usque dum ad hanc circiter quam vides quantitatem pervenimus: Puer ille orbis statim iterum queret, dum ibi parvi fuimus, ibi viximus & nos movimus & crevimus, an quoque comedimus & bibimus, ac per nares respiravimus an excrementa ejecimus? respondetur ei quod non: ipse sine dubio hoc incipiet negare, & demonstrationes extruere, ex impossibilibus argumentando ab ente perfectio, & dicet, quilibet nostrum si per unam horam careat respiratione, mori cogimur; quomodo credi potest aliquem in utero clauso per tot menses vivere potest? And so goes on with the young Man, forming very strong Arguments against this most certain Truth, meerly by the misapprehension of Inferences from the nature of things in their perfect Existence, to the nature of things in their Original.

It is true, Men must be wary and considerate before they conclude against the Frame and Order of things as they appear in Nature, because otherwise Men may take liberty to conjecture any thing, which is certainly unbecoming a Philosopher, especially who pretends to govern himself by the *Phænomena* of Nature, and it is that which we have before condemned. But on the other side, to suppose that impossible in the Origination of things which we find not in things already settled, is too hasty and rash a Conclusion; especially when we are driven to confess another kind of Origination of Mankind than now is, and do not find any so probable and so free from absurd Consequences, so ancient, so convincingly delivered, as that by the Divine Historian *Moses*.

And this is so much the rather credible, because it is impossible to conceive that Man could have his first Origination but from an intelligent, most wise and powerful Efficient, unless a Man shall offer violence to his own Reason; and certainly to such an Efficient such a Production is not only possible, but suitable to be supposed.

5. We have here prescribed and determined the Law and Means of the natural production of the Individuals of Mankind in their future production, according to that Method and Mode which hath in all Ages ever since by the course of Nature been observed, namely, by Propagation by mutual Conjunction of their Sexes, though this could not be the Method of their first production.

And this Prolifick Power of production of Mankind by successive natural generation, was by the Virtue and Efficacy of the Divine Institution and Benediction given to Mankind in his first Creation, and by

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virtue thereof that Power and Faculty is continued in them, and translated to the succeeding Individuals to this day; and accordingly, *Virtute divina ordinationis & institutionis uterque sexus appetitum illum procreandi innatum habent, membra & vasa huic facultati subservientia hucusque obtinent, & diversitate sexuum eidem officio necessaria gaudent; quod non vel vasa, vel stupida & ceca natura obtinere potuerunt, sine ordinatione, appropriatione, institutione summi & sapientissimi numinis, ejusque volitionis & determinationis*: And as this Law of future Generations was thus given to Mankind, and *quasi alligata* to them, so it is exclusive of any other either casual or natural way of Generation, except it be by Miracle; and therefore we must now suppose a possibility of an utter abrogation of this natural Law, if we should suppose any other kind of natural production of Mankind should after this first production of the Humane Nature be possible: We may with as fair a Supposition imagin that a Man should be produced by the natural conjunction of Sheep or of Lions, or a Star be produced *ex putri materia terrestri*, as to suppose a Man to be produced accidentally, casually, or naturally in any other Method than this Divine Law of Nature fixed in the Humane Nature by the Divine Institution hath determined, unless as great a supernatural Miracle should happen by the Divine immediate Power, as did in the Conception of the *Messias*.

6. As subservient and necessary to this Law of future Generation, we have here the distinction of Sexes, [*Male and female created he them.*] This distinction and conjunction of Sexes in order to the propagation of Mankind, was part of that Law and Order that the Wise God instituted for this end.

And certainly there needs not any clearer Argument that the production of Mankind was not a Work of Chance or blind necessary Nature, but a Work of a most Wise, Intelligent, Powerful Being, that adapted the discrimination of Sexes to the propagation of Mankind; either Sex without the other being in Nature utterly unprofitable and unuseful to that end, without which the succession of Mankind must have been determined in the first Individual.

And it is no less evidence of the continual active Providence of that Great and Wise God, that the succession of both Sexes is continued in that equal proportion, as that there is no grand disparity in the propagation of Individuals of either Sex.

This diversity of Sexes was not in the same Individual, as if *Adam* had been *Androgyna*, or one double Person conjoined or continued, consisting of both Sexes (till they were after divided and severed) as *Plato in Symposio*, and many of the ancient and modern *Jews* have thought; but the first Creation of *Adam in virili sexu* being perfected, the production of *Eve ex latere Adami* was the very same Day of his Creation miraculously performed by Almighty God; for the Words [*Male and female created he them*] refer to the whole entire complement of the Creation of Man, which was not till the Formation of *Eve*. There may be something mysterious in this business of the Manner of *Eve's* Formation which may be hard to unriddle.

It is enough, that God Almighty before the end of the Sixth Day formed both Sexes of Mankind in order to the common help of each other,

other, and the propagation of the future Generations of Mankind: the History therefore of the Formation of *Eve*, though mentioned in the second Chapter, and after the Benediction of the Seventh Day, must necessarily be referred to the Sixth Day, wherein it is expressly affirmed that both Sexes in distinct Persons were then created, [*Male and female created he them*;] and such transpositions are not unusual, neither in the Holy History nor in other Histories.

The first Chapter gives the brief and orderly Relation of the whole *Series* of Times, and Things done in them; and the second Chapter is only a fuller and more explicit Declaration of some things that are briefly and compendiously delivered in the first Chapter, as appears not only by the Relation of the Formation of *Eve*, but divers other passages relating to what was transacted in the first Chapter.

7. The Formation of Man was the last Work of the Creation, the last Work of the last Day; and the Reasons of this Order seem to be these; 1. Because in the Method of the Creation of Sublunary Natures Almighty God proceeded from the less to the more perfect and curious Parts of the visible Creation: as first he made Vegetables, then Fishes and Birds, then Brutes, and Man in the last place, as the most perfect, and containing not only the Faculties of Vegetables and Animals, and that in a more perfect nature, but also a superadded, intellectual, spiritual Soul. So he was the noblest part of the Creation, at least of this lower World. 2. Because Mankind should be furnished to his hand with all things convenient and useful to his existence and operation, as the Grass was provided before the Brutes were created, so before the Creation of Mankind Fruits of the Earth were provided for his food and delight, a Paradise for his entertainment and employment of his Senses and Industry, Idleness being not indulged even in Paradise, and the goodly Furniture of the visible World both Celestial and Sublunary, to raise his Admiration, Contemplation, and Delight. 3. Because God Almighty intended him a liberal Patrimony, which he would furnish and compleat in all its numbers before Man was created, and as soon as he had created him, gave him this inferior World, as his Usufructuary and Steward at least; but yet withall gave him a subordinate dominion of that whereof he made him his Steward: and this great Benefactor prepared this Gift of this inferior Terrestrial World to be ready for his Creature Man's reception as soon as he had a Being, and accordingly gave it him with all its Furniture. *Gen. 1. 28, 29.*

8. That Man was by Almighty God in his first Creation in a state of perfect Felicity and Immortality, but under a condition of Obedience to the Divine Will, Command, and Law; that he had implanted in his Mind and Conscience certain Principles of Moral Goodness and Righteousness, which are the Original of those common Notions of Good and Evil, as so many secret Byasses and Inclinations to the observance of the Good and avoidance of the Evil. And as even the inferior Animals have implanted in them secret Instincts and Tendencies for the preservation and advance of their sensible, individual, and specifical natures; so these implanted Notions and Moral Inclinations in the Mind of Man, were therein lodged to guide and lead him in a conformity to his excellent Constitution; and for the attainment of an intellectual
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and eternal Good; and these, though the vigour and brightness of them were much abated by his Fall, yet were transmitted with his nature to his Descendents.

And this is the Original of those common Notions which yet remain in the Humane Nature, though refracted and abated by the Fall of Man; this is that common Light and Law of Nature which to this day in some measure prevails in the generality of Mankind, to the Acknowledgment, Adoration, and Reverence of a Deity and Moral Righteousness; this is that Law of Nature mentioned by the Apostle, *Rom. i.* written in the Hearts of Men, whereby they do by Nature the things contained in the Law: But of this I shall write somewhat fuller in the ensuing Chapter.

9. Besides this Moral inscribed Law, God Almighty for the tryal of Man's Obedience, gave him a positive Law prohibiting the eating of the forbidden Fruit, under pain of temporal and eternal Death and Curse; and Man was left in the hands of his own liberty, to obey or disobey it.

10. That Man being left to the free liberty of his own Will, though furnished with sufficient abilities to have obeyed Almighty God, yet by the temptation of Satan, his own sensual appetite, and ambitious affectation, violated his Maker's Law, and broke that Condition upon which much of his Perfection and Happiness was conferred upon him; and although he retained his Essentials, namely, his Essential Constitution, this Spirituality and Immortality of his Soul, his Faculties of Understanding and Will, he thereby incurred these unhappy deprivations.

1. A loss of the immortal state of his Composition, being now obnoxious to the separation of Soul and Body.

2. A very great abatement of that temporal Felicity he had in this Life, and obnoxious to the everlasting separation from God, with the Death of the Soul.

3. An abatement and diminution of those Habits of Knowledge and Rectitude of Soul, and a great weakning and decay of the vigour and activity of connatural implanted Notions or Inclinations.

4. A great disorder in the due subordination of his Faculties, and a great confusion and corruption prevailing upon his noble Faculties; and weakning, disordering, and abusing them.

5. An impair of that Sovereignty and Dominion over the Creatures, who rebelled against Man as soon as he forsook his Maker.

6. Diseases, Disorders, Weaknesses, Sickneses, Harbingers and Fore-runners of Death attacking his Bodily Constitution.

7. A transmission of these Hereditary Imperfections and Decays to his Posterity.

And herein and hereby we have an Account of that great *Quæsitum* among the Learned Heathen, (where yet for want of this Discovery by the Holy Scriptures, they could never attain the full knowledge and reason) namely, the Original of Sin and Evil, and those many Corruptions, Defections, and Miseries of Mankind.

And thus much concerning the Divine History of the Creation and Defection of Man.

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The Reasonableness of this Hypothesis of the Origination of the World, and particularly of the Humane Nature, and the great Advantages it hath above all other Hypotheses touching the same.

THat the World had a beginning of its Being, at least in that order and consistence that it now holds, I have shewed in the beginning of this Book: Again, if there could be any imaginable doubt or question, whether the great Integrals of the World were eternal, and without beginning, yet I have shewed, that Mankind, or the successive Generations thereof, *ex ante genitis*, is in Nature and Reason impossible, and in Fact and Experience apparently improbable, and therefore that there were some common Parents of Mankind, who had their beginning of existence, and that in some other way than they are now produced.

All that have supposed an Origination of Mankind *ex non genitis*, have admitted something either of Matter analogous to it, out of which Mankind hath had such his Origination (which we also admit as to all his Constituents at least, but his Soul) and therefore the great Debate hath been touching the Efficient, or that Being, or Nature, (or whatever we shall call it) that first compounded, formed, and constituted the first Parents of Mankind in that essential and individual state, consonant to that specification of Humane Nature which we daily now see.

Every thing that hath a beginning of Being, must either have it from it self, or from some other active, efficient, and constituent Power or Nature, antecedent to it in time, or at least in Nature; or both.

To suppose that the Humane Nature at first constituted it self, were to suppose it to have a propriety of existence to it self, which were a palpable absurdity and contradiction, for then it should be before it was. Therefore it is necessary, that the first Origination of Humane Nature should be from some other beginning or cause antecedent to it, besides the Matter out of which it was constituted.

And whatsoever the Being or Cause originating Humane Nature was, it must be in nature of an Efficient, namely, something that did actively put together the constituent parts thereof, and formed it into that consistence and existence whereby he became Man.

We cannot by any means suppose any such Efficient or Being, or thing that did *subire rationem efficientis*, but one of these four: 1. An uncertain casual conflux of Particles of Matter that casually compounded a *Semen humana nature*, and so though the immediate *Semen*, thus constituted, may obtain the Name or Notion of the immediate Efficient, yet the true Efficient of that *Semen* (if we may be allowed to call it by that name) was Chance or Fortune. 2. An implanted blind determinate something, which we call Nature, which by a fatal and necessary connexion of furd and irrational Causes and Effects produced the first Parents of Mankind; as the like Nature by the like necessity produceth yearly Worms and Flies, and other Insects that have not their existence by univocal Seed: Both these two Suppositions have been before examined and rejected, as *impares huic negotio*.

negotio. 3. The illapse of some pre-existent or animating formative Principle, which we may well call the Soul or *Anima*, that as in the Generation of Mankind by ordinary procreation we see the formative power is some refined active Spirit or Soul *in semine delitescens*, that fashions the Matter, and actuates it with vital sensible Faculties and Operations; so the illapse of some such active substance or powerful Being; illapsing into Matter and united to it, might form it into that constitution which it enjoyed. 4. and Lastly, Or some superior, powerful, wise, and intellectual Being, that did form, fashion, actuate, and constitute the first Parents of Mankind.

The two former being as before laid aside, I shall use a few words touching the third Supposition, of which little hath been before said, and so pass to the fourth and last and true Supposition of the First Efficient of Humane Nature.

3. Therefore touching the third Supposition, concerning the production of Mankind by virtue of such Illapse of Forms, we may suppose it to be intended one of these two ways: 1. Either that with *Origen* we should imagin a *Mundus animarum* that had real and individual Subsistences: Or 2. that there were some common Element of animate Existence, not divided into individual Existences, but one common rational and vital Nature, whose Particles illapsing into Matter might produce such first Existences of Mankind, and so though in their union to Matter they do *subire rationem formæ*, yet they do likewise *subire rationem efficientis*, as to the formation of Mankind, as the vital Principle in the Egg becomes not only the form of the Chick, but also in the first formation thereof is the disposer of its Organs and exercise of its Faculties, and so doth *subire rationem efficientis immediati* in the formation of the *Fetus*.

As to both these in general, I say, 1. That they are precarious Suppositions, without any just reason to evidence, either that there were such pre-existing individual Souls, or a common reasonable Spirit. Again, 2. The Supposition that these should be the immediate Efficients of the Humane Nature, is likewise precarious and inevident. 3. Even they that suppose either such an individual or common pre-existing Nature, must be forced to suppose them eternal independent Beings, and this will have as many difficulties in it as the Eternity of Mankind; or else if they be supposed created Beings, yet still there will be a necessary recourse unto an infinite uncreated eternal Being that must create them. And 4. consequently the Framers of these Suppositions do with much more difficulty and laboriousness form intermediate Principles of the Origination of Mankind, which with less difficulty and greater congruity may be resolved into the immediate Efficiency of Almighty God, according to the Divine History. 5. And besides all this, if Men will needs suppose a Formation of Man by the illapsing of Souls into prepared Matter, because they see this is the Method of Formation in the ordinary course of Generation now, they must also suppose the progress of the Formation and Maturation of the Humane Nature: This way must be gradual and successive, which will be attended with all those difficulties which are before observed in the Supposition of casual or natural production of Man in his first Origination. But in particular to those several Suppositions, and First, touching the first of these: The Opinion of the pre-existence of Souls
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of Men, and their descent into Bodies, though it hath been countenanced by *Plato* and some that follow him, hath chiefly as it seems been entertained by some of the *Jews*, and some few *Christians*, both recognizing the true God, the Immortality of the Soul, and future Resurrection: For the ancient Jewish Opinion *vide Wisdom 8. 19, 20.* [*For I was a witty Child, and had a good spirit, rather being good I came into a Body undefiled.*] Among *Christians*, *Origen* much asserted this Opinion. But whatever may be said touching the truth or falshood of the Opinion it self, it can no way support the primitive Origination of Mankind by the illappling of such Souls into elementary Matter.

First, It exceeds the power and activity of such imagined, pre-existent Souls, to form and animate Matter into the consistence of a Man without the intervention either of the immediate power of God, or at least without that instituted Method fixed by God in the Generation of Mankind *ex semine*.

And that it doth so exceed the activity of Souls thus to do, appears in this, that although there is according to that Supposition of a *Mundus animarum* a sufficient stock of existing Souls, and if there were not, yet those that once informed humane Bodies survived after the *dissolutio compositi*, and yet we never heard since the first formation of Man that any such new formation hath been made, nor any illapse of any such Soul into any other *Fetus*, but what hath been formed according to the established Law of the successive production of Mankind *ex mixtione seminis utriusque sexus*. Nay the more considerate *Pythagoreans*, and those *Jews* that held the Transmigration of Souls, never supposed any transmigration into any spontaneous production of Man or Animal, but only into such as proceeded *ex univoca generatione*; and what hath never been done, yea never supposed to have been done, we have no reason to suppose possible to be done by any natural and finite Efficient, for such these Souls must be whether they pre-existed or not.

And therefore though in the Resurrection the separated Soul is supposed to reassume his own Body again, yet this seems not to be by any natural power residing in the Soul to form the Body and reunite it self to it, but must be attributed to that Almighty Power of the Glorious God, and to the working of His Mighty Power, whereby he is able to subdue all things to himself, and by the very self-same excess of power, whereby he first created Man upon the Earth, shall he form, raise, and reunite the Humane Nature in the Resurrection, *vid. 1 Cor. 15. 1 Thess. 4. Mat. 13. Mat. 24.* Christ the Son of God raised himself; but in the Resurrection the Dead shall be raised by the Power and Command of the Glorious God.

Secondly, It is not supposed by those, that the Souls of perfect Brutes had any existence antecedent to their first production, for their Souls are not of a self-subsisting nature, they cannot exist out of them, but begin with them, and dye with them; so these in their first production could not arise by any such *illapsus animarum* into elementary Matter, but we must attribute their primitive Formation or Creation to the Command of the Divine Will; and so if we give them any Origination, we shall upon this Supposition give them a nobler Origination, and by a more immediate interposition of the Divine Power and Will, than to that of Man, which seems unreasonable.

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As to the Second, It is true the *Platonists* attributed an Universal Soul to the Universe, the *Anima mundi*, which though they sometimes suppose it a created Intelligent Nature, yet in other places we shall find them attributing so great power and energy to it, that it seems they made it to be no other than God himself. But when they held their Supposition of an *Anima mundi* as a created Existence subordinate to Almighty God, although they attribute many of the great Appearances of Nature, both in their production and government to this Universal Spirit, yet they dare not assert unto it the Efficiency of the first Original of Humane Nature by it; and if they should, yet this their Supposition would have this flaw in it, that they take greater pains, and run the hazard of more difficulties, by supposing the Origination of Man from this *Anima mundi*, than if they should with us suppose the immediate Origination by the Divine Power; neither do they gain any thing by it. But this I may possibly resume again hereafter.

But the Supposition whereof we took notice before is this, That there is a threefold created Universal Nature, *viz.* a *Natura mentalis*, common to Men and Angels; a *Natura sensitiva*, common to Animals; and a *Natura ignea*, which is the common Principle of Vegetation.

And therefore as the *communis natura ignea* is dispersed through the Universe, and by participation thereof to particles of Matter gives an existence to the Vegetables of several natures, so the communication of the *communis natura sensitiva* might at first give an original to perfect Sensitives, as perchance it now doth to *insecta sponte nascentia*; so the participation of the *Natura mentalis* to some portions of elementary Matter may also give the origination of the first Men and Women in the World.

Two things I should say to this :

First, Although it be true, that the abstraction of the Understanding, ranging the Souls of living things under these Distinctions and generical Notions, hath given us the Notion of one common *Mentalis natura*, and one common *Sensitiva natura*, and one common *Igne natura*; yet it will be hard to prove, that there are any such real common Natures really existing, but in the Individuals thereof. We have the common Notion of *Natura animalis*, and yet never any Man could make out, that there was any *Animalis natura* but what existed in the Individuals, or that here ever was or can be really existing any Animal with it, not determined in some more contracted existence than an Animal.

Secondly, I must needs confess there is a fair probability of Reason offered by many Learned Men of this triplicity of existing common Natures, and it carries a great analogy with many other *Phænomena* in Nature, and therefore I dare not generally deny it, though the explication of the manner of their Existences, their particular Natures and Uses, be difficult: But if it be admitted (as possibly it may be) that there is some common Element of Mental Nature, another common Element of Sensitive Nature, and another common Element of *Igne Natura*, and that the several Ranks of Beings, Rational, Sensitive and Vegetable, participate of these respective Natures, as their common Store or Element from whence they are derived, and therefore for instance the Rational Soul in Man were a participation of that common Element or Stock of the

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the *Mentalis natura* ; yet still we must go higher for the Origination of Mankind , for this would be no other than as it were the *Materia prima* or *communis* of the Souls of Men.

1. Either this *Natura mentalis* is indivisible , and communicated intirely without any distribution of several divided parts of it to all Men, as the common Heat of the Sun is communicated to a thousand Men together , and then all Men will have one common Soul , and there will be no individuation nor principle of individuation between Mankind , for the same universal indivisible Soul reasons and wills in every Man, which would be unintelligible and absurd.

2. Or to uphold Individuation in the Persons and Souls of Men, this common *Natura mentalis* must be either truly several divided Souls, with Origen's *Mundus animarum* ; or else, though this common Nature be actually one at first, yet it is divisible, and potentially many : and so the several Souls of several Men must be so many several Particles or *Ramenta* of this *Universalis natura* ; and either this portion thereof must be by the superior Activity of Almighty God , or else it must have a kind of natural division of it self, according to the division of Matter qualified and organized to receive it : If the former, still there is *dignus vindice nodus* ; for God Almighty must be called in to distribute and participate the portions of this Mental Nature : if the latter , then what shall become of the Individuation of the Soul after Death ? It will return back , and be drowned as it were in the *Natura mentalis*, or be annihilated ; and if it keeps its Individuation, it must be by the Power and Interposition of Almighty God.

3. But be it what it will, suppose it be the common Matter as it were of the Souls of Men, and therefore now in the ordinary course of Propagation, by a kind of settled Law in Nature may communicate it self or any portion of it self, to the natural productions of Mankind ; yet where do we find, that either it ever did, or can of its self form a Body out of Elementary Nature, and unite it self unto it ? Or how could that be done without the ordinary method of Generation , to dispose and organize the Recipient or organized Body, or the interposition of a superior Intelligent Nature, that must form and unite it ; and if it ever did , or could do the same by its own immediate Activity, why do we not see the same thing done daily without the course of ordinary Generation *ex Semine* , since this *commune Elementum mentale* still is supposed to exist , and of the same efficacy as ever it was ?

4. It is observable , that in all these kinds of Suppositions either of one *Mundus animarum individualium* with Origen , or of a common *Elementum mentale* , whether divisible or indivisible, nothing can be done without taking in the Power of an Omnipotent God , either in the first Creation of these Souls or Elements, or in the direction, ordering and governing of their illapses into Matter, or of the preparing and organizing of Matter in the first Origination of Men, or in the separating or individuating of these Elements, or in the uniting of them to Matter , or in giving the Law, and Rule, and Institution of their future Regiment, or indeed in all of these : And so Men have needlessly, and without sufficient evidence multiplied *Entia* , and yet such as are not effectual to the solution of the *Phænomena* , *nisi Deus interfit* ; and all this plainly expedited with the same ease , and less perplexity and multiplicity, by the immediate Command of the Divine Will and Power in the first production of Things, according to the plain, explicable , and

intelligible System given us by God by the hand of *Moses*, namely, an immediate Formation of Man, an immediate Creation of an Immortal Intellectual Soul, and an immediate Union of both Parts of the *Compositum* by Almighty God.

5. Indeed if it be supposed that one common Mental Nature may be specifically appropriate to the Humane Nature, (not taking in the Angelical) the difficulty of the specification of Humane Nature by that common Mental Principle may be removed, because the Humane Nature is but one *Species*; yet the Supposition of one common Sensitive or Vegetable Nature, as the common Constituent of Animals and Vegetables, leaves us under this perplexity and difficulty, namely, How from that common Sensitive Nature there ariseth diversity of *Species* of Animals and Vegetables; or since the Principles are but of one kind, how comes the *Species* to be several: And on the other side, if the variety of *Species* arise from the different modification or qualification of the Matter, How comes it to pass that there is any fixedness and determination of the *Species* of Animals or Vegetables, or that they are contained and conserved in the same *Species*; since the modifications and qualifications of Matter are various, and irregular, and infinite, neither do they keep in one fixed modification or qualification, but the same is hourly changed. It remains therefore, that although we should admit such a *Natura sensitiva* or *igne*a, either in some common Masses, or interspersed and diffused through the whole Mass of Elementary mixed Matter, we must be fain to suppose something else that must determine these common and Homogeneous Principles into determinate *Species*; or at least, that there are as many Sensitive Natures specifically distinct as there are *Species* of Animals in the World. These Suppositions therefore are not sufficient to explicate the first productions of perfect Animals, at least without multiplication of inevident and unexplicable Suppositions.

6. I therefore come to that true, and plain, and necessary Conclusion, That the first production of Mankind, yea and of perfect Animals, was wrought immediately by the Efficacy of an Intelligent, Wise, and Powerful Being, distinct from the things produced: and this is the great Truth that in all this Discourse I aimed at, and am now arrived at.

And I shall not need go any farther for the evidence of this Truth, than the Contemplation of the Thing it self, (Man,) in which we shall find so many clear Evidences of an Intelligent Efficient, that we need no other, and the common Instances will evidence the Reasonableness of such a Consequence. If I should behold a House with several Rooms and Stories, excellently contrived with all Offices and Conveniences for Use, Doors, Windows, Chimneys, Stairs, and every thing placed and digested with Order, Usefulness, and Beauty, a little Logick will induce me to conclude that it was the Work of an intelligent and skilful Architect, though I did not see him building or finishing it. If I should see a curious Watch, curiously wrought, graved, and enameled, and should observe the exact disposition of the Spring, the String, the Wheels, the Ballance, the Index, and by an excellent, orderly, regular Motion described, discovering the Hour of the Day, Day of the Month, and divers other regular

regular and curious Motions : Or if I should see such a goodly *Machina* as some ascribe to *Archimedes*, whereby in distinct Spheres or Orbs the situation of the Elementary and Celestial World were represented, and all these put into their several Motions, consonant to that we see in the Heavenly Bodies, by the means of Springs or Weights, artificially placed, I should most reasonably conclude, that these were neither Casual nor simply Natural Productions, but they were the Work of some intelligent curious Artist, that by design, intention and appropriation wrought and put in order and motion these curious *Automata*.

And certainly, if I or any Man of Reason should in this moment behold a parcel of red Clay, and in a moment should see that arise into the Figure of a Man, full of Beauty and Symmetry, endued with all those Parts and Faculties which I see in my self, and possibly far more glorious, exquisite, and beautiful; and I should observe him presently after this Formation use all the Operations of Life, Sense and Reason, and this kind of production never seen before : That common Reason which should tutor me to think that that Watch, that *Machina* before mentioned was the Work of an Intelligent Nature, would much more enforce me to believe that this admirable and stupendous production of such a Nature unexampled before, would enforce me to believe and confess that this were the immediate Work not only of an Intelligent Being, but of a most Wise and Powerful Being, that could thus in a moment frame, animate, and endow such an excellent Creature as this.

And yet certainly the first created Parents of Mankind were constitute in a Nature specifically conformable unto that Nature which Mankind now hath, and as we have no reason to believe they were any way inferior to the present Perfection of Humane Nature, so we have very great reason to suppose them constituted in a greater degree of Beauty and Perfection than the most perfect Man that hath been ever since their Formation, (except the incarnate Son of God.)

Although I do not intend in this place to take a large Survey of the Perfection of the Humane Nature, because it is in part done already, and I shall reserve it, God willing, for its proper place and season; yet because my Scope here is to evince, that the Supposition of the first production of Mankind is an unquestionable Evidence of the Existence of a most Wise and Intelligent Being; and that the strength of that Evidence rests in the due Contemplation of the Excellence of the Humane Nature and Faculties, and those other Appendices thereunto; and that it is not possible to conceive any other but an Intelligent Efficient (working by Choice, Wisdom, and Appropriation) should be the first Producent, Former, and Constituent of such a Nature. I shall take a short Survey of the Humane Nature, Perfections, and Appendices, which may give any Man a handle to improve it farther to the same end; leaving the fuller Discourse of the Humane Nature as a Reserve, also whereupon a fuller Improvement may be made of this Consideration and Conclusion.

And upon the diligent Observation of this Argument it will evidently appear, That the modelling, framing, compounding, ordering, and endowing the first Prototype and first Copy of the Humane Nature

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was neither an Act or Event of Chance, or of a Surd, Inanimate, Unintelligent Nature, but was a Contrivance and Work of Design, Skill, and Intention, a Transcript of that *Idea* which resided in an intelligent Being, a Work of a wise and powerful Being; yea such a Work as could never have been made by any less than the most intelligent, wise, and powerful Being, exceeding the more single Wisdom and Activity of any created Intelligence at least, unless acting in and by the Commission, Virtue, and Strength of the Almighty God.

Now these Excellencies in Man that demonstrate an Intelligent Efficient are of two kinds, 1. Such as immediately concern his nature: 2. Such as are distinct from it, but relating to it.

1. Therefore concerning those Excellencies that concern immediately his Nature; and these discover themselves and the Wisdom of their Efficient. And these Excellencies are considered either simply in themselves; or 2. *Composited*, and with the several Subserves and Accommodations to their Ends and Uses.

As to the first Consideration, there are many Excellencies in the Humane Nature which manifest a far more eminent Excellency in his first Efficient.

The Symmetry, Beauty, Majesty, and admirable Composure of his Body, to which there can be nothing added, nor detracted, without a blemish to it.

The admirable Faculties of his Soul, those that concern him in his lowest rank of Life, the Faculty by which he is nourished; those that concern him in his middle rank of Life, Soul and Sensation, Memory and Appetite; those that concern him in his supreme rank of Life, Intellect and Will; those that concern him in his whole *Compositum*, the Generative Faculty.

The admirable Union of his Soul to his Body, whereby he becomes one Intellectual Being, though consisting of Principles of differing natures.

These and such as these would be largely prosecuted, for they do evidence an intellectual, most wise Efficient, that could thus erect, and thus endow such a Fabrick. But that which I most reckon upon, is that admirable Accommodation that is found in the nature of Man, which doth most undeniably demonstrate an intellectual and wise Efficient, working by Intention and Design: for instance, It is indeed a very great evidence of an Artist that can make the Wheel of a Watch, or the Spring, or the Ballance, but the destination of the Spring to the String, and the String to the Fusée, and the accommodation of every Wheel, and their position and fabrick one to another, and the Ballance to correct and check the excess of the Motion, and the Index to the Table, and to fit the Table with Divisions suitable to the Hours, and to put all into such a regular Motion as demonstrates the Hour of the Day: This adaptation of things of various and several Natures and Structures one to another, and all to some common End or Design, is so great an evidence of an Intellectual Being that works by Intention, by Election, by Design and Appropriation, that nothing can be opposed against it: And therefore I rather choose to prosecute this compound Consideration of the Humane Nature, the adaptation and appropriation of

of things therein one to another, and to common Use; which is the most evident Argument of such an Efficient as I have before described in the first Fabrication of Humane Nature.

It were the business of a Volume to pursue all the Particulars of this kind, I shall only instance in some.

1. The admirable accommodation of the several Parts of the Humane Body to make up one *Continuum*, yet consisting of divers Parts distinct in their individuals and kinds, the mortifying of the Bones one into another, the binding them together by Nerves and Muscles and Tendons, the Veins and Arteries for the carrying of the Blood diffused by several Ramifications from their Roots to the uttermost extremities of the Body, their differing Coats, *Anastomoses* and means of Communication for the Circulation of the Blood, the distributions and ramifications of the Nerves; indeed the whole Frame of the Humane Body is an Engin of most admirable contrivance and mutual accommodation of Parts, which is so much the more admirable, because many of the Parts are distinct not only in the Roots and Numbers, but in their Nature and Constitution; yet make up one most beautiful *Continuum*, by the mutual accommodation and admirable contignation of the several Integrals thereof.

2. The admirable accommodation of Faculties to the convenience and use of Humane Nature, for Instance, the Digestive Faculty to preserve Life, the Generative Faculty to preserve the *Species*; his Faculties of Sense are accommodated to a Sensible Being, for as much as he is to converse in a Corporeal World, and with Corporeal Beings, there is no one quality of Corporeal Nature that he hath occasion to use or converse with, but he hath a Faculty by one of his five Senses to receive and discern. Again, in his Intellective Faculty it admirably serves him for the Ends and Uses of his Being; he was appointed to govern, direct, and rule other Animals, and therefore he hath the advantage of a superior Faculty above them, whereby he is able to exercise that Direction and Government: He was made to be the Spectator of the great Work of God, to consider and observe them, to glorify and serve that God that made them; and he is accordingly furnished with an Intellective Faculty answerable to his condition.

3. The admirable accommodation of Faculties with subminist'ring Faculties, and Organs subservient, appropriate, and convenient for their exercise: For Instance, Local Motion is necessary to Mankind, and accordingly he is furnished with Animal Spirit, Nerves, Muscles, Tendons, and Limbs admirably contrived, and destined, and fitted to Local Motion. The Intellective Faculty is furnished with the organical Fabrick of the Brain, and the subordinate Power of Sense, Phantasie and Memory, to assist it in its exercise while it is in the Body: *Facultati generativæ & prolificæ subministrans facultas seminificationis, ac organa eidem deservientia, appetitus naturalis, voluptas quedam alliciens organa generationi dicata, & distinctio sexuum, sine qua juxta legem in natura post primam humane nature formationem insitam, hujusmodi speciei propagatio fieri nequivit.* The Digestive Faculty, furnishing the Blood, the Blood increasing the Body, and supplying the Treasuries of the Spirits, the Spirits again supplying and maintaining the Offices of the Faculties. So that not only the Blood, but

but the whole Corporeal and Animal Nature is in continued motion and mutual subserviency.

I might be endless in this Contemplation, but because it is evident to any Man that considers, and I design a larger discussion of this Business when I come to consider the Parts and Faculties of the Humane Nature, I shall not give farther Instances therein.

And the Use that I make of it is this, That although it might be supposed possible, that either Chance or Nature might in some simple narrow things produce very curious Appearances, as the Configurations of *Asterites*, of *Crytals*, of *Salts* in their several shapes; yet when in such a complicated Nature as Man is, consisting of so many various Parts, various in their position, nature, and use, there shall be found such an exact adaptation of every thing one to another, as to serve the whole and every part; this in the primordial Constitution and Formation must needs be the Work of a most wise, intelligent, powerful Being, that operates *secundum intentionem, appropriationem, & intelligentiam*.

2. Let us come then to those Appendices and relative Respects of other things to the Humane Nature, we shall easily find in it this Consideration also, the Footsteps and Evidences of an Intelligent Nature in the Constitution of him, by that admirable accommodation of things without him of different nature from him, to his use and convenience.

In the Operations or Works of Intelligent Agents we may easily see, that according to the degree or perfection of such Intelligence there is variety in their Work or Production: An Intelligent Agent that is but of a narrow Intelligence, as his Prospect is commonly short and weak, so his Work seldom attains more than a narrow and single End. But if the Agent be of a large and comprehensive Intelligence and Wisdom, his ends are great, and most times various and complicated, and the same Operation or Work may have many and divers Ends and Uses.

Almighty God therefore being of infinite Wisdom and Power, foresees and effects great and various Ends in one and the same Work or Operation: Take for Instance that goodly Creature the Sun, What a complication of excellent Ends and Uses there are in that glorious Body? It is the Fountain, communicating Light to the Earth, the Air, and all the Planetary Bodies; it is that which derives Heat, and is the great Instrument of deriving Fruitfulness and Fertility to the inferior World; it distinguisheth Times and Seasons by its Motion; it raiseth, and digesteth, and distributeth the Warry Meteors for the benefit of this inferior World, and infinite more advantages of this kind. And therefore it is the narrowness of our Understanding, that when we see one excellent End or Usefulness in any thing, to conclude, that God Almighty intended no other.

And therefore it is too hasty and vain a Conclusion, to think that the glorious Bodies of the Celestial Host were made merely for the service of Man; and it is also folly and presumption to conclude, that even the things of this inferior World, though principally designed for the use of Man, were merely and only destined for the service of Man: Almighty God hath the Glory of his own Greatness, and the Communication of his own Goodness, as the great End of all his Works: Yea and we have reason to think, that even in these inferior Beings of this lower World
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which are delivered over to the use and service of Men, God Almighty had other Ends that possibly we know not, nay possibly in the Effect of the least minute Animal Almighty God intended a Communication of so much of his Goodness and Beneficence to it, as might give it a kind of complacency and fruition suitable to the capacity of its Existence, though subordinate to other Ends.

And yet not only in these inferior Existences of this lower World, but even in the Fabrick, Order, and Oeconomy of the superior World there is to be found an admirable accommodation of them one to another, and to this Steward and Tenant of Almighty God of this inferior World, called Man.

1. If we look upon the Celestial World, we have an admirable accommodation thereof to the convenience of Mankind; it presents to his View, and thereby to his Understanding, the most noble Spectacle of the Celestial Bodies, their Order, Beauty, Constancy, Motion, Light, conducting to the knowledge and acknowledgment of the Power, Wisdom and Goodness of God: it gives him an account of the progress, and parts, and succession of Time; these are advantages that no Irrational Nature can make use of.

But the Influence of the Heavens are a common Benefit to Man and all Sublunary Natures; but yet the inferior World seems in a great measure directed for the benefit of Mankind; some in common to him and the Brutes, as the Air for Respiration, the Fire for Warmth, the Water for Drink, the Earth for Fruit and Habitation.

But in this lower World there seems many things directed to the special use of Mankind; for besides Domestick Animals especially allowed for his Food, there are some that serve for his Employment, Motion, Exercise, and Food, as the Tillage and Planting of the Earth for his Food; some for his Medicine, as Herbs, and Gums, and Minerals; some for his Clothing, as the Furrs, Wool, and Skins of Beasts; some for his Habitation, as the Timber and Stone; some for his Fuel, as Wood, Coals, and Turf; some for his Defence and Manufacture, as Iron and Steel; some for Commerce, as the Metals of Silver, Gold, Copper, the very Situation of the Seas, the *Magnets*; some for his Ornament, as Silk and Jewels; some for his Journey and Labour, as Horses, Oxen, Camels; some for his Necessity, some for his Delight: Infinite more Instances may be given, whereby it will evidently appear that this lower World is accommodated to the use and convenience of Mankind in a special and remarkable manner; whereby it may be evident to any considerate Man, that the Formation of the World and of Mankind was by the same wise and provident Power; and that as the Humane Nature is accommodated to it self, so this World is accommodated to the exigence and convenience of the Humane Nature.

When I have considered the admirable Congruity of all the Parts of Christian Religion, and how it corresponds, and is adapted to the convenience and condition of the Humane Nature, and how those antecedent Prophecies, Promises, and Directions of Religion in the Old Testament, bear an admirable congruity to the Model of Religion in the New Testament, notwithstanding the vast distances between the manifestations of them, and how all the Scheme of Divine Dispensations

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from the beginning of the World bear an admirable accommodation each to other, and to the Evangelical Doctrin; it gives us a strong Moral Evidence that the same one God was the Author of this Religion, that although there seem a diversity and variety in the Administrations, yet when I look upon them together, compare the congruity of what goes before to what follows, it seems one most beautiful Piece, fitted and accommodated in every part to the other; and hereby I satisfy my self that it is the true Religion, that it is all of one piece, and one common Author of it, namely, the God of Truth.

And so when I consider the Humane Nature, and the admirable accommodation that one part thereof hath to the other, and also look upon the *Mundus affectabilis*, especially this lower World, wherewith we are by reason of its vicinity best acquainted, and observe how admirably the same is accommodated to the Animal Life of Man: And although the Parts thereof are distinct, various, distant, yet there are drawn from it Lines of Accommodations and Communication to the Use of the Humane Nature, so exactly and appositely, that I cannot choose but acknowledge one common Author both of the greater and lesser World, and such an Author, as made and disposed all things by the highest Wisdom and the wisest Choice. If there had been divers Authors of the greater and lesser World, there could never have been an accommodation of things so disparate one to another, unless both had acted in subordination to one common third Being, or by one common Counsel.

Again, it was not possible that Casualty or Chance could have accommodated things of various kinds one to another: If Chance could make a Beam of a House, and could have made Tenents at either end, yet it is not possible to conceive that Chance could cast it to be just of a fit length to answer the congruity of its contignation to another piece of Timber, or fit the Mortises of other pieces of Timber to those Tenents, or fit the particles and scantlets to answer just one another; this must of necessity require a Workman that works by Understanding, Choice, and Appropriation, because it requires accommodation of several things of several kinds to one End by several Means.

Thus therefore when I see the admirable accommodation of Humane Nature to its own existence and conveniences, the admirable accommodation therein of things of different natures one to another, as Organs to Faculties, Sinews to Bones, Nerves to Muscles, Spirits to Nerves; when I see the excellent accommodation of this lower World, especially to the Humane Nature, although they are in themselves several and heterogeneous, I cannot (without violence to my own Observation, Experience, and Reason) I say I cannot but attribute the first Formation of Humane Nature, yea and of all the Universe, to one most Wise, Intelligent, Powerful Being; who did all things according to the counsel of his Will, after the most wise and excellent *Idea* of his unsearchable Understanding.

C A P.

C A P. V.

Concerning the Nature of that Intelligent Agent that first formed the Humane Nature; and some Objections against the Inferences above made, and their Answer.

HAVING in the foregoing Chapter reduced the Origination of Mankind to an Intelligent Efficient, effecting it *per modum efficientis voluntarii, & per intentionem*, I shall in this place inquire what kind of Intelligent Efficient this was, for among Intelligent Beings there is one *Primum*, the Glorious God, whose Understanding, Power, and Goodness is infinite; there are also acknowledged by the Heathen, *Intelligentiæ à primo*, those which *Aristotle* calls by the Name of Separate Intelligences, *Plato* calls *Dii ex Diis*, and we commonly call Angels, very glorious and powerful Creatures, which *Plato* takes into the Business of the Creation of Man, as to the Corporeal Frame.

And it seems to be, that the Effecton of the Humane Nature in any part thereof, is not attributable to the Angels, neither as instrumental, much less as principal Causes.

1. As to the Soul of Man it seems beyond dispute, for that was a created Substance, and Creation of any new Substance being an infinite Motion, is not within the power of any Finite Nature: the Pretence therefore rests only as to the Corporeal, or at least Animal Nature.

2. Therefore I say that the Formation of the Bodily, much less the Animal Nature of Man, in order to the reception of the Soul, was neither coordinately nor instrumentally the Work of Angels. And the Reasons that seem sufficient to make out this Truth, are these:

1. It seems utterly above an Angelical Power to organize the Body of the Humane Nature: for though it is true, that in the established way of Generation, the Parents, who are inferior in nature to Angels, do organize the Body, at least *mediate semine*, yet that is done in the virtue and strength of the Ordination and Institution of Almighty God: So that as well Man as the *Semen genitale* are the Instruments deputed by Almighty God in virtue of his Supreme Power to propagate the Humane Nature. And therefore since the first Formation of the Humane Nature was a new Formation, not according to the Laws established after in Nature, the first Production of Mankind was immediately by the Almighty Power, and not by the Power of any subordinate Intelligence.

2. Again, it could not possibly be, but that the Humane Nature must be completed in an instant: For how is it conceivable, that first there should be *Corpus formatum*, with all the Organs, Vessels, Blood, and Spirits disposed and ordered in their several Cells and Motions, unless Man had been then at the same time animated as well as organized? For the outward shape or stature of a Man is no more a fit Receptacle of an Animal, much less of a Rational Life, than a Statue of Wax or Stone. The same Hand therefore that animated, formed and fashioned also the

same Humane Body in the same moment, by virtue of the Volition, Determination, or *Faciamus* of the Divine Will.

3. As we have no manner of evidence of the Angelical concurrence or instrumentality in the Formation of Man or of any of the lower Animals, so there is no necessity at all of such a Supposition. And we are not to multiply Causes without necessity, for as the bare determination of the most powerful and efficacious Will of God was sufficient to bring Being out of Nothing, so the like determination of the same Will was sufficient to form Man out of the Dust of the ground, without taking in a subordination or instrumentality of Angels.

Again, if we should suppose the cooperation of Angels in the Formation of the Body of Man, it must be in the strength, virtue, and efficiency of the first Cause, which as it gave the Angels their Being, so it must give them the efficacy, power, and virtue to be instrumental in this Formation; which as we have no warrant, so we have no probable reason to admit, since the first Cause was all-sufficient for this Effect without their assistance.

4. The admirable Structure of the Body of Man, the accommodation of it to Faculties, the furnishing of it with Faculties accommodate to it, even as its Animal Nature (though we take not in the reasonable intellectual Soul) imports in it a Wisdom, Power, and Efficacy above the Power of any created Nature to effect: If it should be in the power of an Angel, by applying actives to passives, to produce an Insect, nay a perfect Animal, yet the Constitution and Frame of so much of that in Man that concerns his Animal Nature were too high a Copy for an Angelick Nature to write, unless thereunto deputed and commissioned by the Infinite God, which Commission we no where find, and I am very sure a bare Naturalist will not suppose.

5. Again, there is that necessity of a suitableness and accommodation of the Parts of the Body to the Faculties of the Soul, and *è converso*, that any the least disproportion or disaccommodation of one to the other would spoil the whole Work, and make them utterly unserviceable and unapplicable one to the other. It was therefore of absolute necessity that the same skill and dexterity that was requisite to the first Formation of the Soul, must be used and employed in the Formation of the Body; and if an Angel were unequal to the making up and ordering of the Soul, he could never be sufficient to make a fit organical Body exactly suitable to it.

Upon the whole matter I therefore conclude, That not only the Soul, but the very Animal Nature in Man, and not only that, but the Formation and Destination of his Bodily Frame, was not only the Work of an Intelligent Being, but of the Infinite and Omnipotent Intelligent Being, who in the same moment formed his Body, and organized it with immediate Organs and Instruments of Life and Sense, and created his Intellectual Nature, and united it to him, whereby Man became a living Soul.

And this, as the necessary Evidence of Reason, doth first drive us to acknowledge a Being, or first Formation of the Humane Nature *ex non genitis*; and secondly, to acknowledge that this first Formation of the Nature of Man was not by Chance, Casualty, or a meer Syntax of
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Natural Causes, but by an Intelligent Efficient; so we are upon the very same and a greater Evidence of Reason, driven to acknowledge that Intelligent Efficient to be the Great and Wise and Glorious God, no other Cause imaginable being *par tali negotio*.

And indeed, if once we can bring Men but to this one Concession, That the original Efficient of the Humane Nature was an Intelligent Being, any Man pretending to Reason will with much less difficulty admit that Efficient to be the Almighty God, than any other invisible, intelligent Efficient, which we usually call Angels or Intelligences: And the Reasons are these, 1. Because though we that are acquainted with the Divine Truths do as really believe that there are Angels as well as Men, yet the Natural Evidences of the Existence of Almighty God are far more evident and convincing, even upon a Rational and Natural account, than that there are Angels; for the former being a Truth of the highest moment and importance to be believed by all, hath a proportionable weight and clearness of evidence, even to Natural Light, more and greater than any other Truth: And hence among the *Jews* the Sect of the *Sadduces* believed the Existence of God, yet denied or doubted the Existence of Angels or separated Intelligences. 2. Because the very Supposition of an Angelical Nature doth necessarily suppose the Existence of a Supreme Being, from whom they derive their Existences. 3. Because the great occasion of Infidelity in relation to Existence of Almighty God is, that sensual Men are not willing to believe any thing whereby they have not a sufficient Evidence, as they think, to their Sense: The Notion of a Spiritual and Immaterial Being is a thing that they cannot digest, because they cannot see or by any Sense perceive it, nor easily form to themselves a Notion of it. He therefore that can so far master the stubbornness of Sense, as to believe such a Spriritual Intelligent Being, as an Angel, hath conquered that difficulty that most incumbers his belief of a God, and we that can but suppose or admit the former, cannot long doubt of the latter. He therefore that can once bring his thoughts to carry the first Origination of Mankind to the efficiency of an Angel, must needs in a little time see a greater evidence not only to believe a Supreme Deity, but to attribute the Origination of Mankind and of the goodly Frame of the Universe to the Supreme Being; as necessarily best fitted with Power, Wisdom, and Goodness to accomplish so great a Work, and that without the help or intervention of Angels or created Intelligences, who must needs derive their Being, Power, and Activity from him.

There remains two or three Objections against the force of the Consequence of the Existence of Almighty God, and his Efficiencies in the production of Mankind in their first Individuals, which I shall propound and answer.

1. *Object.* What need there be laid so great a stress upon the Primitive Formation of Man, as that it could not be done but by the Power and Wisdom of an Almighty Intelligent Being? since every day's experience lets us see, that by the mixture and coition of Man and Woman, *Et ex semine ab utroque deciso, in utero muliebri per spatium decem mensium ad plurimum producitur hujusmodi natura humana, quem tot elogiis magnificamus*; that which we every day see to be an effect of finite Creatures in the daily

daily production of Individuals of Humane Nature: Why must we needs call in no less than the Wisdom and Power of God himself, to be the immediate Efficient of the first Formation of the Individuals of that nature, which we see every day produced by the common efficacy of Nature and efficiency of the Parents; *Vel ad minus, seminis utriusque sexus in utero fœmineo conclusi?*

In Answer hereunto, I shall not at this time or in this place enter into the dispute how far the Divine Efficiency concurs immediately in the ordinary Generation of Mankind, nor how far the entire Humane Nature, as well his Rational Soul as his Body and Animal Nature, is attributable to Parental Generation, these will be proper for another place: but for a full Answer hereunto I say, 1. That there is not the same measure to be taken of the competency or sufficiency of an Efficient in the production of the Humane Nature, as it stands now established, and in the first formation of the first Individuals of that nature *ex non genitis*.

It is true, it is in settled and established Nature, within the compass of the immediate efficiency of both Sexes, & *seminis prolifici ab eisdem decisi*, to form the Humane Nature in that gradual process and method that is now consonant to Nature; but if all the Men on Earth and Angels in Heaven should now go about to form the Humane Nature *ex non genitis*, either out of the Elementary Material, or by the help and direction of the Celestial Influences, or by any Irradiation even from an Angelick Nature, it could not be done: It was therefore a vain piece of madness in *Paracelsus* to pretend to the formation of a *Homunculus*, when by all his pretended Skill he could not protract his own Life, being already constituted to the common period of an ordinary old age. But 2. This *Potestas generativa* in the Humane Nature is part of that admirable Efficiency which Almighty God exercised in the first Formation of Mankind and of other perfect Animals; and this Faculty is performed in the Humane Nature, and traduced from one to another by the immediate efficacy, virtue, and energy of that first Divine Efficiency. In this Generative Faculty therefore though the Parents are not simply passive Instruments, the *Semen prolificum* is not merely a passive Instrument in the production of Humane Nature, yet both are Instruments, and *Efficientes vicaria & subordinata*, in respect of Almighty God; and the activity that either of these Instruments have, they have from that God that first formed the Humane Nature, and implanted and alligated this activity to them. In the first formation of the first Individuals of Humane Nature this *Vis prolifica* was immediately constituted in them by Almighty God, with power not only to produce their kind, but to transmit this *Vis prolifica* to those they so produced: and although the immediate production now seems to be by the immediate efficiency of the Parents, and their prolifick *Semen*, yet it is done by virtue, and in the power of the first efficiency of Almighty God; *Qui cum hanc indidit primis individuïs in eorum prima formatione, ac perpetua quadam lege successivis individuïs quasi alligavit & connexit*. So that as when I behold a Man at this day, his corporeal Figure, his Faculties, I see but as it were a Copy or Transcript of the first created nature of Man in the first Individuals, I mean as to their Essentials; so I look upon the successive Gene-

Generations of Mankind, to be but a continuation of that first generative Faculty concreated with the first Man, and protracted or extended unto all succeeding descendents from him: And therefore I have all the reason imaginable, when I behold the successive Generations of Men, and the actuating of that Faculty, *retro trahere ad primam originem*; and to acknowledge it to be no less the Efficacy of the Divine Efficiency in the thousandth Generation from *Adam*, than it was in *Adam* himself: Just as if I should take a Wedge of Silver of one Inch square, and gild it over with Gold, and should after draw it by Art into a Wire as small as a Hair, to a Mile in length, every Inch of that silver Wire hath the very same tincture which the first Wedge had: Though this resemblance holds not in all things, it serves to explicate what I mean, namely, the *Facultas generativa*, which was by God Almighty given to the first Parents of Mankind, and was bound to their *Species*. And though it be now at a remoter distance from its first efficiency, yet it hath its continuance and efficacy by virtue of that First Efficiency, and the Institution and Ordination of that most Wise and Powerful Being. So that even at this day the univocal generation of Man (yea and of all perfect Animals) is no less the Efficiency of Almighty God than it was in the first production of it, though it be more remote in respect of the interveniency of more successive instrumental Causes. And therefore we are mistaken, if we think that the generation of Men or Animals is purely by virtue of the instrumental Causes, without regard to the first Efficiency of Almighty God; which though it perpetuates it in a settled regular way, now called therefore Natural, yet it is by the Force, Virtue, and continuing Energy of the first wise, powerful, and efficacious Institution of Almighty God. And so nothing is gotten by this Objection, but to re-mind us to acknowledge and admire the admirable Wisdom, Power, and Goodness of God, in the first establishment and continued protraction of this Law of Seminal Propagation.

And this is the true reason of the constancy and fixedness of the Methods of Generation, and why they do not *transire ultra limites*; why those Animals that are produced *per ovum*, do not, cannot produce viviparous, as Birds, and some sorts of Fishes; and why those that produce *vivipara*, or *per vermem*, do not produce *per ovum*; why without extreme accidents all perfect Animals produce Individuals conformable to their own similitude, and specifick nature and likeness; namely, this is the true reason, In the first formation of the Individual of these *Species*, the most Wise God, who foresaw what was most fit and convenient, did engrave these several Laws and inviolable Constitutions in the natures of the things first produced, and chained and connected them to their *Species* by an inviolable Law, not regularly changeable by any Power but by his Power that Enacted them: And therefore it is not in the power of an Angel to alter the established Method of the Generation of things, because it is a Law instituted by the Supreme Lord. And although Monstrous Births may casually arise, as in due time may be observed, yet the production of *vivipara per ovum*, or of *ovipara per vermem*, or of Men or perfect Animals, *aliter quam per conjunctionem maris & feminae*, are prohibited by the settled and fixed Laws established by the God of Nature in the first formation of Individuals.

2. *Object.*

2. *Object.* You lay much stress upon the admirable Fabrick not only of Man but of perfect Animals, the regular and excellent order and composition of their Parts, the accommodation of their Organs to their Faculties, and of their Faculties to the convenience of their Nature: and yet there is scarce the smallest Insect but hath the same Faculties and Organs as exquisitely accommodated to their use as the greatest Animal, nay they are so much the more curious, and the Art of the Artificer so much the more commendable by how much the smaller they are. If a Flea or a Fly hath as exact a symmetry, organization, and diversity of Faculties as an Ostridge or an Elephant; the curiosity of the Art is more admirable by the smallness of the Volume: And yet these do every day arise spontaneously, and it may be propagate their kind after their spontaneous production, or it may be have only the existence of a Day; neither is it reasonable to think that all these Insects thus spontaneously arising, were first produced in the fifth or sixth Day; or that the *Semina formata* of every Worm or Fly that hath arisen this day or yesterday, were created in the first Creation of things, and lay concealed and unactive for above 5000 Years; and yet in these *sponte nata* we see no necessity nor evidence of any immediate Divine Efficiency, for some are every day produced *ex putri, sine præexistente semine*. Why therefore is so much weight laid upon the first Origination of Man or perfect Animals, as if it must needs require the immediate interposition of Almighty God, when we are content to refer the Origination of Works possibly of as wonderful a fabrication as many at least of perfect Animals, to a lower Cause?

I Answer, It is true that there is a great curiosity in the Texture and Faculty of Insects, and that there are very many that arise not *ex præexistente semine*, but either of Vegetables, or of that which we usually call *Materia putris*; and it will be too hard a task for any to maintain that all Insects do arise of univocal Seeds derived from their own *Species*, or that all the *Species* of Insects were created the fifth or sixth Day; neither shall I with *Scotus* affirm that the Forms of such Insects are derived from Heaven, and diffused into Matter, whereby they mould themselves into their distinct Existences.

But as the God of Nature gave a seminal prolifick power to perfect Animals and unto Men, and did bind and connex this Method of their future Generations unto their Nature, without which though they had been constituted otherwise in a most perfect Constitution, they could never have multiplied their kind. So as to the production of many Insects, Almighty God hath given such a prolifick nature to the Earth and Waters, in a certain due mixture irradiated and influenced by the Sun to produce divers sorts of Insects by virtue of these two great Benedictions given to the Water, *Gen. 1. 20.* and to the Earth, *Gen. 1. 24.* as the two great prevailing Elements in spontaneous generations; and as by virtue of the Divine Benedictions given to Animals and Men, [*Increase and multiply, and replenish the Earth and the Waters;*] *Gen. 1. 22, 28.* so by virtue of that first Command to the Waters and Earth, [*Let the waters bring forth abundantly the moving creature that hath life; and let the Earth bring forth the living creature after his kind, and the cattel and creeping thing, and the beast after his kind.*] The spontaneous propagation of Insects

Insects by the Earth is by virtue of this Command as effectual, and in its kind as natural by virtue of this established Law, as the production of Animals *per mixtionem*, though not so perfect.

And from the Efficacy of this Divine Institution it comes to pass,
 1. That their Textures and Faculties are curiously disposed; for the Elementary Nature in conjunction with the Heavenly Influence doth produce them as Instruments, and in the virtue of the first Institution of the Glorious God. 2. That though there is a great variety and multiplicity in their *Species*, yet they are not infinite, but determinate. 3. That according to the variety of Climates and various disposition of Matter, Insects are variously produced: this Climate produceth that Insect that another doth not; and this Herb, this Wood, this Flesh, that Insect that another doth not; and the same is observed in Herbs and spontaneous Plants.

And hence it is, that all the Art in the World can never make the meanest Insect out of any other Matter, or any otherwise disposed, or any otherwise irradiated, than what would of it self naturally produce an Insect of that kind: But this shall be farther illustrated in the Answer to the next Objection.

But although it be true that these little Insects discover the wonderful Wisdom and Power of God, in their vicarious productions by the commissioned and influenced Elementary Nature, yet they come exceedingly short of those perfect Animals who have a nobler and more elaborate production by univocal generation, and infinitely short of the excellency of the Humane Nature: And therefore there is no parity of Instance in the first formation of an Insect *ex non genitis*, and the first formation of the Humane Nature: Every Year gives us Instances of a new spontaneous production of Insects, and this by virtue of that primitive commission and vital vigour thereby concredited to the Earth and Waters irradiated by the Sun. But never any Age gives so much as a shadow of an Instance of the production of any perfect Animals, much less of Man by any such spontaneous Method; and that the latter gives a greater and more eminent *Specimen* of a Divine Power in its primitive formation, than the former in its spontaneous production.

3. *Object.* It is evident that the malignant Spirits have power to produce Insects, as appears by the Magicians producing of Frogs in *Egypt* by their Enchantments, *Exod.* 8. 7. and therefore the resolution of the spontaneous productions of Insects into the Energy of the Divine Command seems unwarrantable. And if he may produce those which are really endued with an Animal Life, why not those Animals that have their ordinary production by univocal Generation, and why not also Mankind.

And the Satyrs and Fauns whereof some of the Ancients write, seems to be productions out of the common road of humane production.

I Answer, 1. Touching the supposed Fauns and Satyrs, they were either Fables or Illusions, and no credit to be given to the Histories of them. 2. Admitting it should be within the power of good or evil Angels to produce Insects, yet it would be no consequence from thence to their efficacy of producing perfect Animals, much less Humane Nature, which is in another superior rank of Being above the noblest

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Brutes,

Brutes, and excessively above the rank of Insects: We might as well conclude, because a Man can make a Candle he can make a Star. But 3. As to the efficacy of good or evil Angels in effecting of Insects, 1. It is of no great difficulty to suppose that good or evil Angels may bring or transport the *Semina* or Spawn of Insects to other places, and possibly thus it might be done by the *Egyptian* Magicians. 2. It is very true, that the Angelick Natures have a very great knowledge of Natural Efficacies and Virtues, and a great power of transporting, uniting, and applying Actives to Passives; whatsoever therefore is effectible by the most congruous and efficacious application of Actives to Passives, is effectible by them. And since there are many Insects that arise by the connatural efficacy of Elementary Matter, and by the due preparation of the same, and by the due application thereof unto the incidence of Celestial Heat and Influxes; it may be in the power of these knowing and active Spirits, by a transportation and application of such Matter, and by the position of them in such an Influence as is natural for their production, to be instrumental not only to the acceleration of such productions, but to the productions themselves: But though still the efficacy of the production is not applicable to the efficiency of these Spirits, but to the natural vigour of those Natural Actives and Passives that are by them brought together, and they cannot produce a Fly or a Frog beyond the activity and efficacy of Elementary Matter and Celestial Heat: (And hence it was, that the *Egyptian* Enchanters could produce Frogs out of the Rivers of *Egypt* by the assistance of evil Spirits, because the Waters and temperament of the Soil and Climate was able to have done it, if those parts thereof were transported and united unto one place, where being brought they would probably without the help of a Magician have been formed into that Insect:) Yet when the same Artists were trying to produce Lice out of Dust, a Matter simply unsuitable for such a production, they could not effect it, but acknowledged it was the Finger of God: *Exod.* 8. 18, 19. We see that Man by his little narrow skill and power, by applying Actives to Passives, may do things of not unlike a nature; as the acceleration of the growth of Seeds by Mineral Preparations, the production of Mites in Cheeses by infusing Wine; and many tell us of a strange production and multiplication of some Insects by the juxta-position of several Ashes and Solutions of Insects, and by other means: none of which ways are estranged from the knowledge of those experienced Spirits.

But it seems utterly beyond the power of any Created Nature to produce any Insect, but by the juxta-position and application of that Elementary Body and Celestial Heat that is natural and proper for such a production: and much more is it impossible for any Created Power to produce any Animal, though never so small or inconsiderable, whose production is by the standing and fixed Laws of Nature mancipated and chained to that common Method of Production settled in Nature, by the Conjunction of Sexes.

And therefore, though an evil Angel may produce a Frog or Snake by the due application of Actives to Passives, as before is declared, yet he cannot with all his power and skill produce a Dog or a Cat, or any other Creature that by the Laws and Institution of Nature is only producible by the Conjunction of Sexes. And

And the reason is, because these Laws which are instituted and settled in Nature when it is fixed and established, are no other than the Laws of the Sovereign Lord of Heaven and Earth; and although he may dispense with, alter, or suspend his own Laws, yet no created Being hath that power of it self to suspend or alter these Laws settled by the God of Nature, no not in any one individual thing; and therefore it is not possible for Angel or Devil, without the immediate Commission from the God of Heaven, to make any spontaneous production of such an Animal as by the established Law of Nature is to be produced by natural propagation, and not otherwise.

But herein I do not understand, 1. Such Insects as though producible by Propagation, yet are naturally likewise producible *ex putri*, as Frogs, and many other Insects; for Nature hath allowed them both ways of production. 2. Neither of Incubation; for many Animals that are *ovipara*, and cannot produce *ovum fecundum sine utriusque sexus natura*, yet may be excluded by artificial Incubation as well as natural; this is not only within the power of Angels, by applying an artificial Heat, but even of any else. The Eggs in *Egypt* are hatched in the Sun, or by the heat of Ovens or warm Ashes.

C A P. VI.

The Reasonableness of the Divine Hypothesis touching the Origination of the World, and particularly of Man, and the preference thereof before all the other precedent Suppositions.

UPON a diligent Observation of the various Suppositions and special Methods of the ancient Philosophers, touching the Origination of Mankind and of the Universe in general, these improbabilities of their truth and sufficiency will appear to any considerate Man. First, They are destitute of any satisfactory Evidence, to any person that is not strangely and impotently engaged to them, either because they are his own Conceptions, or the Conceptions of some persons of whose Learning or Wit their Disciples or Followers are too fond admirers. There are commonly two Ingredients that make Men fond of a pre-conceived Opinion: 1. Self-love and admiration; when a Man hath fashioned a Fancy or Imagination to some height, he falls in love with it because it is his own, and is with great difficulty drawn from it. 2. Affectation of Esteem, which hath a double effect upon Men, namely, the affectation of Praise and Vain-glory, as having found out some Conception singular, novel, or that may give a Man a name of a high Mercurial Wit; and on the other side, a shame and disdain to retract that which he hath once publicly asserted.

The truth is, that many of the several *Hypotheses* of the *Aristotelians*, *Epicureans*, and of divers of the other Ancients touching the original or fundamental state of the Universe and Mankind, are meer Inventions and Fancies, having no other foundation or evidence of their truth, than merely

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their

their own Fancies and Conceptions. And it is not reasonable to think it should be otherwise; for since the Manner of the Origination of Things must in common Reason be thought to be of some other Mode or Order than what we see now in Nature, and since the particular Manner or Method of this Origination of Things is such a Matter of Fact as cannot possibly lye in the compass of humane discovery meerly by the strength of Ratiocination or a bare humane Tradition, (for it is a Matter of Fact that precedes the supposed existence of Memory, at least of any Man) it must necessarily be that Mankind must be ignorant of it, unless it be revealed unto him by some that might certainly know the Fact it self; and therefore the Conceptions of Men touching it must needs be as confused, roving, uncertain, and inevident, as the Discourses or Conceptions of a blind Man that never saw, touching Light or Colours.

But the *Medium* of the discovery of the first Formation of things delivered by *Moses*, is that which can only give us a true Notion of them, namely, Revelation to a Man that conversed with Almighty God face to face, and the Communication thereof to Mankind by this Man divinely inspired, and informed touching this Fact by him that alone could give him the true account thereof, namely, God himself. Although I do not doubt, but besides this Divine Revelation to *Moses*, there was a Divine Manifestation thereof to the first created Man in that fulness of his first illuminated and perfect state of created Nature, and from him that Tradition was derived, and preserved in that Line of the Patriarchs in which the most important Divine Truths were conserved, and traduced from *Adam* to *Moses*.

That which may illustrate my meaning, in this preference of the revealed Light of the Holy Scriptures touching this matter, above the Essays of a Philosophical Imagination, may be this: Suppose that *Greece* being unacquainted with the curiosity of Mechanical Engins, though known in some remote Region of the World, an excellent Artist had secretly brought and deposited in some Field or Forest some excellent Watch or Clock, which had been so formed, that the original of its Motion were hidden, and involved in some close contrived piece of Mechanism, that this Watch was so framed that the Motion thereof might have lasted a Year, or some such time as might give a reasonable Period for Philosophical Conjectures concerning it, and that in the plain Table there had not been only the description and indication of Hours, but the configurations and indications of the various *Phases* of the Moon, the Motion and Place of the Sun in the Ecliptick, and divers other curious indications of Celestial Motions; and that the Scholars of the several Schools of *Epicurus*, of *Aristotle*, of *Plato* and the rest of those Philosophical Sects, had casually in their walk found this admirable *Automaton*, what kind of work would there have been made by every Sect, in giving an account of this *Phenomenon*? We should have had the *Epicurean* Sect have told the by-standers according to their pre-conceived *Hypothesis*, that this was nothing else but an accidental concretion of Atoms, that haply fallen together had made up the Index, the Wheels, the Ballance, and that being haply fallen into this posture, they were put into Motion. Then the *Cartesian* falls in with him, as to the main of their Supposition, but

but tells him, that he doth not sufficiently explicate how this Engin is put into Motion; and therefore to furnish this Motion there is a certain *Materia subtilis* that pervades this Engin, and the moveable parts consisting of certain globular Atoms apt for Motion, they are thereby and by the mobility of the globular Atoms put into Motion. A third, finding fault with the two former, because these Motions are so regular, and do express the various *Phænomena* of the distribution of Time, and of the Heavenly Motions; therefore it seems to him, that this Engin and Motion also, so analogical to the Motions of the Heavens, was wrought by some admirable Conjunction of the Heavenly Bodies, which formed this Instrument and its Motions in such an admirable correspondency to its own existence. A fourth, disliking the Suppositions of the three former, tells the rest that he hath a more plain and evident Solution of the *Phænomenon*, namely, the Universal Soul of the World, or Spirit of Nature, that formed so many sorts of Insects with so many Organs, Faculties, and such congruity of their whole Composition, and such curious and various Motions as we may observe in them, hath formed and set into Motion this admirable *Automaton*, and regulated and ordered it with all these congruities we see in it. Then steps in an *Aristotelian*, and being dissatisfied with all the former Solutions, tells them, Gentlemen, you are all mistaken, your Solutions are inexplicable and unsatisfactory, you have taken up certain precarious *Hypotheses*, and being pre-possessed with these Creatures of your own Fancies, and in love with them, right or wrong you form all your Conceptions of things according to those fancied and pre-conceived Imaginations. The short of the business is, this *Machina* is eternal, and so are all the Motions of it; and in as much as a Circular Motion hath no beginning or end, this Motion that you see both in the Wheels and Index, and the successive indications of the Celestial Motions, is eternal, and without beginning. And this is a ready and expedite way of solving the *Phænomenon*, without so much ado as you have made about it.

And while all the Masters were thus controverting the Solution of the *Phænomenon* in the hearing of the Artift that made it, and when they had all spent their philosophizing upon it, the Artift that made this Engin, and all this while listened to their admirable Fancies, tells them, Gentlemen, you have discovered very much excellency of Invention touching this piece of Work that is before you, but you are all miserably mistaken, for it was I that made this Watch, and brought it hither; and I will shew you how I made it; first, I wrought the Spring, and the Fusee, and the Wheels, and the Ballance, and the Case, and Table; I fitted them one to another, and placed these several Axes that are to direct the Motions of the Index to discover the Hour of the Day, of the Figure that discovers the *Phasis* of the Moon, and the other various Motions that you see; and then I put it together, and wound up the Spring, which hath given all these Motions that you see in this curious piece of Work: and that you may be sure I tell you true, I will tell you the whole order and progress of my making, disposing, and ordering of this piece of Work, the several materials of it, the manner of the forming of every individual part of it, and how long I was about it: This plain and evident discovery renders all these excogitated *Hypotheses*
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of these Philosophical Enthusiasts vain and ridiculous, without any great help of Rhetorical Flourishes or Logical Confutations.

And much of the same nature is that disparity of the *Hypotheses* of the Learned Philosophers in relation to the Origination of the World and Man, after a great deal of dust raised, and fanciful Explications and unintelligible *Hypotheses*. The plain, but Divine Narrative by the hand of *Moses*, full of sense, and congruity, and clearness, and reasonableness in it self, doth at the same moment give us a true and clear discovery of this great Mystery, and renders all the Essays of the generality of the Heathen Philosophers to be vain, inevident, and indeed inexplicable Theories, the creatures of Phantasie and Imagination, and nothing else.

1. This therefore is the first Advantage of the *Mosaical Hypothesis* of the Origination of things above the Philosophical Theories touching the same; the latter are inevident, conjectural, and indeed apparently false; the former contains an Evidence of it self, by its consonancy, to the only manner that can be sufficient for such a Discovery, and the plain, evident, and congruous relation of it.

2. All the Philosophical Theories (except that which carries the Origination of things up to Almighty God) are full of infinite intanglements, difficulties, and inconsistencies, that ever and anon break out and discover themselves; whereby they are enforced by a continual substitution of new Suppositions, to piece up and mend the breaches that arise upon such inconsistencies, and so avoid those intollerable absurdities that their Suppositions do necessarily occasion. And again, sometime are fain utterly to lay aside some of their former Positions, as utterly undisciplinable and ungovernable by any subsidiary Explication, by reason of their gross absurdities and apparent impossibilities. This appears by some of the former Debates touching the *Epicurean* and *Aristotelian* Suppositions, and many more may be given in this matter.

But the first Chapter of *Genesis*, as it is perfectly consonant to it self, so it labours under no difficulties or absurdities, but all parts thereof are easily and apparently reconcilable one with another, and with the common reason of the things delivered upon the account of that common Supposition upon which the whole is bottomed, namely; the Efficiency of the most Wise and Powerful Intelligent Being.

Since therefore it is evident that Truth is ever consistent with it self, and that which contains any irreconcilable absurdity or contradiction with it self or any other Truth, can never be true: we have all the reason imaginable to give the preference to the *Mosaical Hypothesis*, as consonant to it self, and to all other Truths that are; and on the other side, to reject the *Epicurean* and *Aristotelian* Theories in this matter, each of which contains irreconcilable difficulties in themselves, and contradictions to evident and demonstrable Truths.

3. The third observable is this, That the Holy History gives us such an Efficient, and such an Efficiency of things that gives us a plain, and clear, and evident Solution of all those admirable *Phænomena* that we see both in the Universe, in the Motions, Orders, Positions, Influences, and Conveniences of the whole Universe, and of the several great Integrals thereof, and likewise of that admirable Beauty, Order, Symmetry, Usefulness

fulness of Parts, and Organs of Faculties and Powers that are to be found in Animals, and especially in Man: of these admirable congruities of Powers, Motions, and Instincts not only in the Animal and Vegetable Province, but also in the very inanimate Bodies; by giving us the Almighty, most Wise, most Bountiful God to be the first Author of the World and of Mankind, and to be the Contriver and Institutor of that Law in things created, which we usually call the Law of their Nature, which is nothing else but the Will, the Rule, the Institution of the most Wise, Powerful, and Intelligent Being. And let Men toyl themselves till their Brains be fired, and study and invent from Age to Age, to give us any other Explication of most of the observable *Phænomena* in Nature, they will toyl in vain, and substitute unto us nothing but empty, watrish, and unsatisfactory Solutions, or meer Whimfies, *Chimæra's*, and Falsities, instead of Truth and Reality: And this is the admirable preference of the Divine History of the Origination of Things, that it gives us a solid, plain, evident, congruous Solution of all the admirable *Phænomena* in universal and particular Beings, wherein our Minds may rest, and quiet themselves; which those Philosophers neither do nor can do, that use any other Method of the Origination of Things. What reason can there be assigned of the position of the Elementary and Heavenly Bodies in that most convenient position and situation, the usefulness, order, and regularity of their Motions, Heat, and Influence? Why the Motions of every thing are directed with the most suitableness to the convenience of the Universe, and to its own? Why a Stone or a Bar of Iron moves downward, what is within it, or without it, that excites or directs it? What reason can there be assigned of that admirable accommodation of Meteors, the Wind and Rain, nay the very Thunder and Lightning, to the use and benefit of the Elementary World? What reason can be assigned of the admirable Fabrick of the Body of Man, that singular beauty, destination, and symmetry, and convenience of Parts and Organs, that admirable constitution and ordination of his Faculties, especially that of his Intellect? What reason can be assigned of the wonderful order and procedure of the generation of Men, yea and of common Animals: All done with that order and uniformity, with that convenience and regularity, that it exceeds the imitation, and even the comprehension of the wisest Man in the World? Touching these and infinite more of these admirable Appearances in Nature, the first of *Genesis* gives us a plain, reasonable, evident Explication, by letting us know that these were the Works of the most Intelligent Being, the Works of the most Wise and Glorious God: And the reason why they are so admirably, wisely, and excellently framed and ordered, is because they were made and ordered by the great Skill, Wisdom, Power, and Design of the Glorious God.

But now if we come to demand of these wise Philosophers a Solution of the admirableness of these *Phænomena*, we shall have such Solutions as must make us first unreason and unman our selves, before we can subscribe to them, or at least we shall have such a Solution as no way countervails the value of the Work, or else shall give a Solution of *Idem per idem*, or else by somewhat else that is utterly unintelligible.

Ask *Democritus* and *Epicurus*, and by their favour, some of their late fry

fry the Atomists will tell us, that all or the greatest part of this is by chance, casual position, and mode, and motion, and figure, and texture of Atoms: and he that believes this whiles he hears it or says it, is in a full capacity of believing any thing, though never so unreasonable. Let any Man but ask his own Reason fairly, whether he can believe this that he thus saith, I appeal to that Man, whether he doth or can really believe himself when he says it. Ask another sort of Philosophers for their Solution of it, they will tell you that Nature is the Cause, and a sufficient Solution of all these things: But what is that Nature, where is it, is it the nature or disposition of the things themselves? Then it explicates it no otherwise but thus, That things have this excellency and order, because it is their nature to be so, or, they are so because they are so: But if by Nature they mean some separate Existence, what then is it? Is it a Body or Spirit, is it a reasonable, an intelligent Being, or is it a furd and stupid Existence, or else is it a Law or a Rule self-subsisting? If it be a reasonable, intelligent Existence, we differ but only *de nomine*; that which I call God they will call Nature, at least unless they suppose it an inferior intelligent Being, and then the difficulty is only made somewhat more; that a subordinate intelligent Being was able to produce such Effects which appear to all Men to be Works of the greatest Power and Wisdom imaginable. On the other side, if they suppose it to be a meer furd unintelligent Being, how comes it to pass that they carry in them the greatest evidence imaginable of the most perfect, and consequently of the most intelligent efficient Agent? Again, will they suppose it a *Norma*, Rule, or Law of a most excellent frame and order, (and indeed in so conceiving, they conceive truly that Nature is such a Law or Rule) but still this doth not explicate the *Phænomena* of Nature, without supposing somewhat more: A Law or Rule is not in it self effective or active, neither can it subsist or exist without an Agent that either gave it, or works by or according to it. The Laws of a State are the Rules of its Government, but this Law must be given by some Power, and some Power there must be that must act according to it, otherwise a Law is a stupid, dead, unactive, and unconceivable thing: And therefore a Law or Rule singly explicates not any the *Phænomena* of Nature without a Being that gives this Law to things, or acts, or makes things act according to it; and then we are in a great measure where *Moses* brings us, only with this difference, the Law by which this great World was made, was no other but the Determination and *Beneplacitum* of the Divine Will, determined or qualified (if we may use that improper word) with the highest and most sovereign Wisdom and Power: And the Law by which things thus made were for the future to be governed, was that instituted Rule and Order which this Sovereign Lord contrived and placed in created Beings; and thus indeed, *Opus naturæ est opus intelligentiæ*. Nature therefore may have these various acceptations, *viz.*

1. As it signifies that *Principium activum* that gave every thing its Being; and thus it imports no other than Almighty God, that Supreme Intelligent Being, though improperly called Nature; *viz. Natura naturans.*
2. As it imports the Things or Effects principated or effected by this intelli-

intelligent active Principle, or the Effects or Creatures of God, or *Natura naturata*, and this hath a double import, viz. 1. For the first and immediate Productions of that Principle, namely, not only created Matter, which was the *Productum primo primum*, but also the things first produced in their several kinds or natures, or *Producta secundo prima*, as the first Vegetable, Animal, and Humane Individuals: or 2. For those Mixtions and Productions which afterwards had their productions in the World by successive mixtions and generations, which include all Productions, which though in relation to their dependence and first production of their kind, are still the Creatures of God; yet in relation to their immediate Causes, are productions of second Causes.

3. As it imports the Law and Rule and Method and Order, of the production and government and process of created Beings; and this of two kinds, 1. The Law and Rule of the first Creation or Production of Beings; as the production of the first Individuals of Animals, Vegetables, and Men: and herein though Almighty God proceeds with admirable Wisdom and Order, yet he used no other Law or Rule than the immediate Determination of his own most wise and perfect Will, suitable to the Business he had in hand, wherein there was necessary and fit another kind of Regiment and Order than was afterwards instituted. 2. The Laws or Rules instituted, and appointed by the same most wise God to things already constituted; this is the common and ordinary and regular Law of instituted Nature: and these two Laws or Rules were different, and necessary that they should be so. In the first Constitutions of Beings God Almighty proceeded by a Law suitable to that Work, namely, according to the wise Counsel of his own Will, that was best and fittest for that Work; he proceeded more suddenly, and by the immediate interposition of his own Power the Vegetables constituted in a moment, or very speedily, and within the compass of a Day came to their full and perfect maturation and growth: so also did the Fowls, and Fishes, and Brutes, and Man, without any considerable *mora* between their first formation and complement or individual perfection: But the Law instituted for things already formed and settled was of another kind; Vegetables, Animals, and Men are in the Laws of their future existence to pass through those gradations and steps and methods which we see now in use, for the formation, production, increase, and perfection thereof. Again, in the first production of things, though sometimes the wise God used in some measure the order of second or instrumental or effective Causes, yet he bound not himself to that Rule; though, as we have formerly observed, the instrumentality of Heat might be used in separating the *Expansum*, and the arefaction of the Earth, and the production of Vegetables; and though the instrumentality of the perfected Celestial Bodies might be some way instrumental towards the maturation of Nature, towards the production of Animals: and though he used the Matter which he had created to be the *substratum* of the Corporeal Natures, even of Man himself; yet the great Energy and Power whereby he compleated all things, was above and beyond the activity of second Causes; yea when he used the instrumentality of second Causes, his own Powerful and Omnipotent Hand was engaged in the advancing of the efficacy of the second Causes, which he used beyond their natural

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strength

strength and efficacy, there was much that was supernatural and miraculous, as well in the first separation, distribution, and formation of things, as in the first Creation of the Corporeal Matter out of nothing. But in the succeeding process and procedure of created Nature he fixed and established certain powers and activities in things, and a certain order and connexion between them and their effects, and governed and regulated the motions and productions of things according to those implanted powers and connexions; and this we call the instituted Law of Nature, namely, the activities and powers placed in created Beings, and the mutual connexions and concatenations of things to such activities and powers: which Law was at first instituted by the God of Nature to be the common and standing ordinary Rule for things, settled and fixed in their created station. And therefore we are far from denying a Law of Nature or Calling in the immediate efficiency of the great God, or a miraculous interposition in all the ordinary procedures of things already fully settled and statuminated by the first Divine Efficiency. That which we only say in relation to Nature already settled is but this, that

1. The primitive and fundamental powers and activities of things were placed in them by the immediate Will and Efficiency of God; it is this that gives the power to Heat and Fire to dissolve, dissipate, rarify, and consume; to Cold to condense; to heavy Bodies to descend; to all the Celestial Bodies their Motions, Influences, and Positions; that gave the Generative Faculty to Men, to Brutes, to Fishes; the Productive Faculty to the Earth and Waters; the Receptivity to *Semen* and Intellection, &c.
2. That he by a continuing Influx doth support and preserve all things in their being, order, and activity.
3. That this which we call the Law of instituted and statuminated Nature, is his Law and his Institution, and the connexion of natural Effects to their natural Causes is his Institution, his Law, his Order.

And therefore we do neither deny a Law of Nature, or a connexion between natural Causes and Effects, but that which we justly blame in these Men that pretend themselves to be the great Priests of Nature, and admirers and adorers of it, is, 1. That they do not sufficiently consider and observe, that this which they and we call Nature, and the Law of Nature, and the Power of Nature, is no other but the wise instituted Law of the most wise, powerful, and intelligent Being, as really and truly as an Edict of *Trajan* or *Justinian* was a Law of *Trajan* or *Justinian*; *Sic parvis magna*: and 2. That they do not warily distinguish between that first Law, *in rebus constituendis*; and this second Law of Nature, *in rebus constitutis*: but inconsiderately misapply that Law and Rule and Method which is ordinary and regular, constituted, and fitted, and accommodate to Nature already settled; as if the same were and ought to be necessarily the Rule and Law in the first formation and settling of things: which is an Error that proceeds from the over-much fixing of our Minds to that which in the present course of things is obvious to Sense, and not adverting, that the first Constitution and Order of things is not in Reason or Nature manageable by such a Law, which is most excellently adequated and proportioned to things fully settled.

Therefore, besides that Law which the Divine Wisdom, Power, and Goodness hath fixed in Nature fully statuminated, we must also suppose a Law

Law and Order of the Divine Wisdom, not rigorously bound either to second Causes or present stated Methods in the first production of things. And this the due Consideration of the different nature of the state of things *in fieri* and *in facto esse*, will easily persuade, that the most wise God that hath established a fixed, regular, ordinary Law in things already settled, which he rarely departs from; yet used another kind of order, namely, the regiment of his own Will and Wisdom, and if I may with humility speak it, a dictatorial power, more accommodate to the first production of things. And thus much for the comparison between the *Mosaical* and Philosophical Theories touching things, and the great advantage and preference of the former, as most suitable to the true nature, state, and reason of things. And now I draw towards a conclusion of this long Discourse, and shall therefore in the last place give an account of those Consequents, Consequences, and Corollaries which are evidently deducible from this Consideration of the Origination of Mankind by the immediate Efficiency of this Supreme Intelligent Being, Almighty God: and indeed, principally for the sake of these Consequences and Corollaries hath all been written that precedes in this Book, and it is the Scope, End, and Use of the whole Book, which I shall absolve in the next Chapter.

C A P. VII.

A Collection of certain evident and profitable Consequences from this Consideration, That the first Individuals of Humane Nature had their Original from a Great, Powerful, Wise, Intelligent Being.

I Now come to that upon which I had my Eye from the first Line that was written touching this Subject, namely, the Consequences and Illations that arise from this great Truth contained in these Conclusions.

1. That Mankind had an Original of his Being *ex non genitis*.
2. That this Origination of Mankind was neither casual, nor merely natural.
3. That the Efficient of Man's Origination, was and is an Intelligent Efficient of an incomparable Wisdom and Power.

First therefore, we have here a most evident, sensible, and clear conviction of a Deity, and a confirmation of Natural Religion, which consists principally in the acknowledging of Almighty God to be a most perfect Eternal Being, of infinite Wisdom, Goodness, and Power, and a due habitude of Mind, Life, and Practice, arising from that Principle.

It hath been commonly observed, that the particular or instituted Religions since the Creation have had their Proofs by Miracles, which were as it were the Credentials to subdue the Minds of Men to assent to it. Thus the instituted Religion of the *Jews*, given by the hand of *Moses*, was confirmed by the great Miracles done by God by the hand

of *Moses*, in *Egypt* and in the *Wilderness*: and the *Christian Religion* had its Confirmation by the Miracles of *Christ* and his Apostles, who did wonderful things, beyond the reach and power of created Agents or Activities, which were therefore Miracles; such as were governing of the Winds and Seas, healing of the Sick by a touch or word, raising the Dead, &c.

But it is farther said, That Almighty God never used Miracles to evidence the truth of his own Existence, Power, Wisdom, Goodness; or for the establishing of Natural Religion, or the confuting of Atheism.

But I take it, that there are really as many Miracles for the evincing of the truth of Natural Religion, *viz.* the Existing of Almighty God, as there are Works in Nature: For although it be a great truth, that the Laws of Nature, as the Positions of the Heavenly and Elementary Bodies, their Motion, Light, Influence, Regularity, Position, propagation of Vegetables, Animals, Men, and the whole Oeconomy of the Universe is by the Divine Wisdom, Power, and Goodness settled in a regular course; so that now we call things Natural, and Works and Laws and Order of Nature; and being so settled and fixed, cease to be Miracles: yet in their first Institution and Constitution, they were all, or many, Miracles, Works exceeding the activity of any created or natural power, and accordingly ought to be valued, and really are so; and it is nothing else but their commonness, and our inadvertence and gross negligence, that hinders the actual estimate of them as great and wonderful Miracles: As I have often said, if at this moment all the Motions of the Heavenly Bodies should cease, or there should be a general stop of the Propagation of Animals, Vegetables, or Men, if Men's Reason should generally fail them, and for the most part they should become like Brutes, if the Light of the Sun were darkned, or the great Luminous or Planetary Bodies should bulge and fall foul one upon the other, or that disorder or confusion should generally fall upon the Works of Nature, and break that excellent Order that now obtains among them, we should be full of admiration of such a Change, and account them Miraculous: And the reason is, because the sense of the Change is at present incumbent upon us, and we cannot choose but take notice of them as strong, unusual, miraculous Prodigies: When all this while Natures course holds regularly, the Wonder and Miracle is ten times greater in the state of things as they now stand, than it would be in such a discomposure of Nature. The Motion, and Light, and Position, and Order of the Heavenly and Elementary Bodies is a greater Evidence of the Divine Power that put them and keeps them in Motion, than if they all rested. And it is a greater Miracle that a Man was constituted upon the Earth, that he hath a power given him to propagate his kind, that he lives ordinarily such a portion of time in the World, that he hath the use of Reason and Understanding, I say there is more of Miracle in it, than in the want of it: Only there are these three things that abate the value of it among Men, 1. The commonness of the benefit and wonder renders the Observation thereof little. 2. Mankind is negligent in improving his Observation, he never rubs the Corn out of the Ear, and so by inadvertence, supineness, and negligence, suffers things of this nature to slip away without notice. 3. We rarely carry things to their Original, but
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take them as we find them; whereas if we did as by a Clew follow the Works of Nature to their Original, we should find the Divine Omnipotence and infinite Wisdom at the upper end of the Chain, and the Worms themselves no other than Miracles in their first constitution. He that considers the admirableness of the Frame of Humane Nature, especially of his intellectual power, and that is but acquainted with himself, will without arrogance or vain-glory conclude that Man is the most admirable Creature that this lower World affords, a Creature to which all the visible Creatures of this lower World seem in a great measure to point at, as their End. And therefore if the first Individuals, the common Parents of Mankind were at some one time constituted, there was a very great deal of Power, Wisdom, and Intelligence employed to the making up of such a Piece as this: If we see an excellent Picture to the Life, or a Statue, there will not need much Rhetorick or Logick to perswade or evince, that surely it was not done without an excellent, knowing, and intelligent Artist. And certainly that Efficient, who ever he was that did at first compose and make up the admirable Structure of the Humane Body, all the Organs, Nerves, Veins, Arteries, *Viscera*, Bones and other Integrals thereof; that endowed it with the Faculties of a vegetable and sensible Nature, that gave him a reasonable, intellectual self-moving Soul, with all its subordinate Faculties; that so strangely and stupendiously united two such different Essentials of a reciprocal and intellectual nature, was some intelligent Being, and such an intelligent Being that was not only of a far more admirable Wisdom and Power than Man, now the best of the visible Creatures, appears to be; but of such an excess of Wisdom and Power, as cannot be found in any known Being, besides him that we call Almighty God.

And if any Man shall say, as needs he must, that surely it must be granted, that he was of a Power and Wisdom far more excellent and perfect than that Work he thus made; but how are we sure that he must be God? May it not be some Being that admirably surpasseth the perfection of Humane Nature, and yet may it not be something less than infinite, somewhat inferior to God, may it not be some Angel, some separated Intelligence? To this I say, 1. That Man that can be forced by this Work to acknowledge an Intelligent Being transcendentally beyond the Power and Wisdom of a Man, a Power that he never saw, but only collected from the eminence of an Effect which surpasseth the activity of any Being that he hath ever seen with his Eyes; a Being that acts by choice, election, and intention: I say, that Man that can once admit an invisible Being of an efficiency equal to such a Work, hath broken the strength of Atheism; since whatsoever can be alledged to evince such an Existence, as the Objection supposed doth, may be alledged efficaciously to prove the Existence of a God; since all that can be said for the Existence of the former, that and much more may and must be said and granted for the Existence of the latter, namely, God. 2. But again, since the measure of any Man's conception touching the infinite, sovereign excellence of an Efficient must needs be the excellence of the Work; if therefore a Man doth not, cannot know any more admirable created Existence than himself, he cannot expect a greater Evidence of a more transcendent Power, Wisdom, or Goodness, than he that was the Efficient

Efficient of such a Being as himself is: 'Tis possible he may suppose some more excellent Inhabitants of the Heavenly Bodies than he himself is, but this is more than he knows; and 'tis true the Sun and Stars are goodly beautiful Bodies, but he doth not know that they are any more than fiery Balls, that naturally give light and heat: but as he hath no evidence, so he hath no evident reason to satisfy, that they are animate, much less intellectual; and consequently, for any thing a Man knows he himself is incomparably a more excellent Being than they: it is true, they last longer, and so doth a piece of Marble, I speak not to disparage those beautiful Beings, but to enforce the Argument *ad hominem*; that to the first formation of a living Intelligent Nature there is as great a Power requisite and conspicuous, as to the formation of the noblest Creature that we see or know: And I should not question, but that that Power and Wisdom which were equal to the first formation of the Reasonable Nature, were equal to the formation and efficiency of the Sun or the brightest Star in Heaven. Since therefore I can judge of the measure or excess of the Power and Wisdom of any Efficient by the nobleness and value of the Effect, and I know not any sensible Being of greater worth, value, and wonder than Man; I have reason to believe that he that first formed Man is a Being of the greatest and most transcendent Power, Wisdom, and Goodness that is imaginable; and that Being which I have reason to believe to be of the greatest Power, Wisdom and Goodness, I have reason to believe to be Almighty God, who is *Optimus Maximus*. And if it be said that the conviction by this Argument is so much the more infirm, because I see daily that Man begets a Man, and so the efficiency no more proves the Existence of God, than it proves the Father to be God that begets a Son of his own likeness and *species*; I say the Instance is so far from weakning the Inference, that it rather enforceth it: For the first formed Parents of Mankind were also endued with this generative power, by virtue of that first efficiency upon the first individual pair of Mankind; so that the generative power in Man is but an effect of that redundancy of Power that was in the first Efficient of the Humane Nature: Indeed if any Man, or all the Men in the World could constitute a Man in any other way than by natural propagation, it were an Instance that would sufficiently confute the Inference. But the generative power and faculty being but a part of that admirable effect that was wrought in the formation of the Humane Nature, it rather advanceth, than any way depreciateth the Power and Wisdom of the first Efficient of Mankind, that he was formed together with such a power of propagating his kind.

2. From hence we learn not only that there is a God, but in some measure we learn what he is. As this Work, the primitive Effect of the Humane Nature, could never be effected but by an Intelligent Being, so when we see such a Work as this, we cannot choose but acknowledge that he is transcendently wise, transcendently powerful, transcendently good; that such was his Power and Wisdom, appears by his Work, and that such was his Goodness, appears, in that freely without any motive or advantage to himself he formed this excellent creature Man; it was but to communicate his abundant Goodness, and to give Being to an Intelligent Nature that might be capable of the participation of his Good-

Goodness and Bounty commensurate to his nature. We also learn, that as he made an Intelligent Being, so he is a Transcendent Intelligence; *He that made the Eye, shall he not see?* It is very true, the perception of Sense is the lowest kind of perception, and the perception of rational and discursive Intellection is of a higher rank than the perception of Sense; the Intuitive perception is nobler than that of Ratiocination; but the perception, if I may use that word, in Almighty God is of a transcendent perfection above all these, and includeth them all, but not under those allayes that render other kind of perceptions less perfect: He sees and hears and knows, without an Eye, without an Ear, without an Object. He that could create an Intellectual Being, doth most perfectly understand and know, for he could not be destitute of any perfection whereof an incorporeal Being could be capable; and since he made a Being capable of Intelligence, certainly he had a greater and more perfect Intelligence. And here I cannot choose but re-mind some things again that I have formerly intimated, viz. 1. That those that go about to attribute the Origination of Mankind to a bare Order or Law of Nature, as the primitive Effector thereof, speak that which is perfectly irrational and unintelligible: for although a Law or Rule is the Method and Order by which an Intelligent Being may act, yet a Law or Rule or Order is a dead, unactive, uneffective thing of it self, without an Agent that useth it, and exerciseth it as his Rule and Method of Action. What would a Law signifie in a Kingdom or State, unless there were some Person or Society of Men that did exercise, and execute, and judge, and determine, and act by it, or according to it? And therefore *Aristotle*, in the Books *de Mundo* attributed to him, though in the description of God; as to the constancy of his working, he stile him Νόμος. *Lex æquabiliter in nos fusa, nec transpositionem nec correctionem ullam recipiens, præstantior & firmitior omnibus quæ in tabulis descripta contineantur.* Yet he rests not in that description, but tells us that he is a Being that acts by Empire and Command and Will: *Quod in navi gubernator, in curru auriga, in choro præcentor, in civitate lex, in exercitu imperator, hoc idem in mundo Deus.* So that to the effecting of the Humane Nature a bare independent Law is incompetent, but there must be an Intelligent Being, whose Will that Rule and Law which we call Nature is. 2. That although the Manner and Method that the Divine Power and Wisdom used in the first formation and effecting of the Humane Nature, is not cognoscible by the Light of Nature, without Divine Revelation, because none but Almighty God was acquainted with or present at that Work, and his Power and Wisdom might use various Orders or Methods in its first effect: yet the Conclusion, that this Work, whatever particular Method it had for its effect, was the Work of a most powerful, intelligent, wise Being, acting by Intellection, Will, and Intention, is a Truth apparently evident to the Light of Nature and Reason, and as infallible a Demonstration of a Deity, as if a Man could have been present and seen the Work done; as I do most rationally conclude an excellent Watch or other Automaton was the work of an intelligent Artist, though I do not know the particular manner how he made it, unless I am particularly informed thereof by him.

3. From hence we learn, that the Divine Providence extends to this
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lower World and all the things therein, and is not only confined to things above the Moon, as *Aristotle* would have it.

He that condescended to the affection not only of Man, but of all the Animals of this lower World, certainly had a regard to them, and would not leave them without the regiment of his Providence, which were the Works of his own immediate Power and Will.

It is true, the ordinary regiment of the Divine Providence in things natural is ordinarily managed by this regular and ordinary Law of Nature whereof we have spoken before. But yet he deals not by the World, as I deal by my Watch; when I have wound it up I take no more care of it, but it moves according to the regular compofure of it; but he communicates a general Influence to it, whereby it is supported in its Being and Order; and as he manifested a more special care in the fashioning of Man, so he affords him a special Providence in his regiment.

4. From hence we learn, not only the Original of those admirable Faculties in Man, especially of the light of his Understanding and the liberty of his Will, whereby he resembles his Maker; but also from whence he had that Intellectual Soul, not out of the Matter whereof his Corporeal and Animal Nature was constituted, but of a higher and nobler extraction, namely, by Creation he breathed into him the breath of Life.

5. From hence we learn to be confirmed not only in the Notion of the Immortality of the Soul, but in some measure the reason of it: It was a created Spiritual Nature, infused into him by the Almighty efficiency and infusion of God.

6. From hence we learn, that Mankind is of kin to both Worlds, the Celestial and Elementary, *nexus utriusque mundi*, capable of a felicity beyond the extent of this inferior World.

7. From hence we also learn from whence these common Notions, especially of the Existence of a God, and these anticipations of some Moral Principles of the Veneration of God, Righteousness, and Justice are evidently to be found in the generality of Mankind; (but where they are impaired by corrupt Customs or Education) from whence those Operations of the natural Conscience are discernible in most Men antecedent to any Instruction or Education, the original of those common Notions that more immediately concern the Intellective Faculty, and Moral Inclinations that more immediately concern the Volitive Faculty, seem to be two; the first more primitive and radical in the Soul, the second not altogether so radical and primitive, yet such as have also a natural connexion with and to the Soul. First therefore as to the first of these: The Soul of Man, as it came out of the hands of the Glorious God, so it had engraven in it these Impressions and Characters of some great and intellective Principles and rational Propensions, that serve secretly to direct and incline him to these common Notions and Sentiments. So that whether the Souls of the Descendents from *Adam* were traduced from him, or whether they are immediately created and infused by God, (a Dispute not seasonable in this place) yet those real Characters, Impressions, and rational *Noemata* and Instincts (though weakned by the Fall, and the contracted Corruption of Humane Nature)

Nature) are brought with us into the World, and grow up with us; whereby Mankind hath not only those great excellencies of his Faculties, Understanding and Will, but a certain congenit stock of Rational Tendencies and Sentiments engraven and lodged in his Soul, which if duly attended and improved, are admirable helps to the perfecting and advancing of a Rational Life. And therefore, as the Divine Goodness did not only give the Faculties of Sense and Perception to the Sensitive and Animal Nature, but also lodged in their sensitive Souls certain connatural and congenit sensitive Instincts (not acquired by Experience, but congenit with them) whereby they are directed and inclined to what is conducive to the sensitive good of their Sensitive Nature; so the Rational Nature is furnished with certain congenit Notions, Inclinations, and Tendencies born with him, but improved and perfected by the exercise of Reason and Observation, whereby he is inclined and directed antecedently to the good of a Reasonable Life or Nature.

These differences seem to be in those congenit Inclinations and Instincts of Animals and Men, 1. In the nature of them, those anticipations that are in Animals are merely sensible; those in Men intellectual, moral, and suitable to the Operations of a reasonable Being. 2. In their end, those of Animals are only in order to a sensible good, and the regiment of a sensual Life; those in Men are directed to the use and benefit of a rational Life, and not only so, but in order to the acquirement of a supernatural and eternal Life. 3. In as much as the Sensitive Nature is not endued with Intellection and Will, and therefore not properly capable of a Law in the true and formal nature of a Law; therefore those Instincts that are lodged in their nature, are merely Inclinations, or natural Propensions, or Biasses: But the Humane Nature being endued with Intellection, Reason, and Liberty, and therefore capable of a Law in its true propriety and formal nature; those rational Propensions and Inclinations in the Humane Nature, are lodged in him by the great Governour and Law-giver of Heaven and Earth, *per modum legis obligantis*; and the insition and engraving of those Notions, Propensions, and rational Tendencies are in nature of a promulgation of that Law, the inscription thereof in their Hearts, and means, helps, and assistances to their observance thereof. And herein lies the true Root of the Obligation of the natural Law and natural Consciences, so excellently decyphered by the Apostle in the two first Chapters of the Epistle to the *Romans*; and this I call the primitive and radical Insition of the Law of Nature in the Soul.

2. But besides this primitive Insition, there is a secondary yet natural Insition of the Law of Nature in the humane Soul, which expands and improves it self as the exercise of Reason increaseth; which is a certain congruity between the Faculties of the Soul, the Intellect and Will, and those Truths of indisputable importance in the Understanding, especially that of the Existence and Regiment of Almighty God, and those moral Sentiments of Good and Evil that in their discovery concern immediately the Understanding or *Synteresis*, but in their exercise concern more immediately the Will: That as we see by a certain connatural congruity between the visive Faculty and the visible Object, and as we tast by a connatural congruity between the Faculty and the Object of Taste; so there is a connatural congruity between the intellective and volitive

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Faculties in the Soul, and those *communia noemata* of these great important Truths both intellective and moral, whereby the Soul perceives, and relisheth, and tasteth true and good, and inclines to it.

8. From the Consideration of this Effect of Man by the Power and Goodness and Wisdom of the glorious God, we have the discovery of that infinite obligation of Duty, Love, and Gratitude of all Mankind unto Almighty God. To give a benefit to a Being already existing, carries in it an Obligation of the person benefited to his Benefactor, *juxta modum & mensuram beneficii*. But God Almighty is the Benefactor of Mankind in the greatest imaginable amplitude and comprehension: he gave him Being, the vastest and most unlimited Gift, and he gave him such a Being, so advanced, so excellent, and perfect, and accommodate with all the conveniences that his nature was possibly capable of; and although Man wilfully threw away a great measure of his Happiness, yet he hath still so much left as binds him to an eternal Gratitude and Duty to God, both as his Maker and as his Benefactor: and the Posterity of Adam hath still continued upon them the same reason of Duty and Gratitude: I shall not here, as I said, enter into the Consideration of the propagation of the Humane Nature. If the Soul of every person propagated be created and infused by God, then every person seems related unto Almighty God in a way little different from that of the first formed Man: But if the Soul be also propagated as Light or Fire from Fire or Light, by a kind of Irradiation from the Soul of the first Man, yet still we are all his Off-spring, every Man owes more of his Being to Almighty God than to his natural Parents, whose very Propagative Faculty was at first given to the Humane Nature by the only virtue, efficacy, and energy of the Divine Commission and Institution, and the Parents of our Nature are but *vicaria instrumenta Numinis*, in the propagation and formation of our Nature.

9. From hence we learn the true Foundation, and Root, and Extent of that Subjection that the Created Nature owes to Almighty God, namely, on the part of Man there is dependence upon God, as the root and support of his existence, there is the obligation of love, gratitude, and duty, as to his greatest and most sovereign Benefactor: But this is not all the foundation of Subjection on the part of Man, and Authority on the part of God, but there are certain radical foundations of the Divine Authority and Sovereignty over Man; namely, 1. A right of Propriety, nothing can be more a Man's own than that which he gives a Being to: But the propriety that any Man can have in what he makes, is still limited and qualified; first, because he is not himself his own, he owes his Being to God, and therefore without the help of Divine Indulgence his acquests are like the acquests of a Servant, *acquirat domino*. And besides, the Matter is not his own, whatsoever he makes, he makes out of that Matter that was not his own: But the propriety that Almighty God acquires in his Creatures is absolute, because he himself is a Supreme and Sovereign Efficient, none is above him; and because the Matter out of which he effected Man and all Corporeal Existences was perfectly his own, it was Matter of his own making. 2. A right of absolute Dominion and Sovereignty over his Creature; where the property is circumscribed, limited, or qualified, the dominion is so too; but an absolute

absolute sovereign property carries with it an absolute sovereign dominion in the Proprietor. 3. An infinite irresistible power to exert the right of his Dominion according to his Will: The two former Considerations give him a sovereign authority over his Creature, a right, *jus disponendi*; but authority or right being divided from power to execute that authority and exact obedience to it is lame, but the glorious God hath not only an absolute right of propriety and dominion over his Creature; but an infinite irresistible power to rule, order, and dispose it according to his Will: Almighty God tells us, *Jerem. 18.* that as the Clay is in the Potter's hand, so are Mankind in his hand, yea and in a far greater subordination and subjection to his Power; the power of the Potter over his Clay is a finite limited power, we see in the same place it resisted and disappointed his intention by its untractableness: But the power of God over his Creature is an infinite power, he that by his power made him in an instant, can in an instant dissolve or annihilate him: And yet this infinite Power of God is under the management of a most wise, and holy, and pure, and gracious Will; and therefore though his Propriety be absolute, his Dominion boundless, his Power infinite, yet the exercise of his Dominion and Power is full of Goodness, suitable to the most perfect nature of God: *I am God, and not man, therefore ye sons of Jacob are not consumed.* Here therefore we have that great Question among some of the Ancients satisfactorily answered, namely, What is the Root of all Obligation in Mankind, whence comes the Obligation in the Consciences of Men, what is it that binds Men to keep their Faith, their Promises? It is the Law and Command of him that hath sovereign Authority to command, and infinite Power to exact Obedience, and to punish the want of it; all other foundations of Obligation are but weak and deficient without this, or in comparison to it.

10. In this History of the primitive state of Man, and his defection, we have the Solution of that great *Quæsitum* that troubled the ancient Philosophers, especially the *Stoicks*, namely, Whence or how came it to pass, that not only that great disorder happens in things of this World, especially in the nature and practices and customs of Mankind, some would have it from Matter, some from one thing, some from another; we see here a plain Solution of the *Quære*, That it came not from God, no nor from Matter, but by the defection and disobedience of the first Man, which brought Death into the World, and Sin and Corruption and Depravation and Disorder into the Humane Nature, and brought disorder and discomposure upon the greatest part of this lower World; which as it was principally made for the service of Man, so it suffered a great Concussion and Breach by the Disobedience and Apostacy of Man: and from this unhappy root ariseth all the Disorders and Confusions in the humane World; for although the Fall of Man did neither alter the essential Constituents of Mankind, nor wholly raze out the Engravings of those common Notions, Sentiments, and rational Instincts that were in them; yet it did in a great measure impair and weaken them, and brought in a very great deordination and discomposure, setting up the lower Faculties in rebellion against the superior; so that the wiser and more morate part of Mankind were forced to set up

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Laws and Punishments, to keep the generality of Mankind in some tolerable order.

11. This reasonableness, congruity, and consonancy to common Light and Reason in the *Hypothesis* of the Formation of the World and Mankind, and the great preference that it hath above those Inventions of the ancient Philosophers touching the same; the admirable Solution of many of those difficulties which are hereby solved, doth give a very great valuation and esteem to the truth and Divine Authority of the Scriptures. It is true, their Authority is above the contribution of Humane Reason, or any Supplies it can bring either to its Truth or Authority: but yet when a Man shall see so great a clearness and plainness and reasonableness in the Holy Scripture touching this great Truth, so many difficulties and absurdities thereby avoided, so great a suffrage and attestation of Reason and common evidence bearing witness to this Truth, and to such a Truth as could never be at first particularly discovered without Divine Revelation, yet being discovered, carries in it nothing of absurdity, but a singular congruity both to it self in the several parts of it, and to the common Reason.

It is true, a great though a Ministerial and Humane Suffrage to the truth and excellency of the Holy Scriptures, strengthens our Faith, which God knows stands in need of all the contributions that may be, to bear up our Souls against that root of Infidelity that is in us; and may be instrumental and preparative to bring those to the belief and veneration of the Scriptures who are without, and hardly persuadable, but by those *media* that bear a congruity to their natural Light and Reason.

12. And therefore we have infinite reason to bless and magnifie the gracious God, that hath lent us his Holy Scriptures to inform us in things to be believed and to be done, and to contain and preserve us *infra cancellos certitudinis*. The Lord knows, and we cannot choose but daily observe in our selves a strange mobility and instability in our Imaginative and Intellective Faculty, roving after every thing and in many things that we know, and much more in things we know not, framing strange *Chimera's*, finding out many Inventions, was the first effect of the departure of Mankind from a revealed Truth, and searching after unknown and forbidden Knowledge.

And this hath been the course and walk and disease of our restless, moveable, unstable, Mercurial Brains ever since in matters of Philosophy, in matters of Religion: The merciful and wise God therefore, to keep in and regulate the extravagant and witless Spirit of Man, and to give us the clear knowledge of things necessary and useful, and to prescribe and fix bounds, and banks, and limits to our moveable, unstable, and unfixed Minds, hath given us these Sacred Oracles both to enlighten and inform us, and to fix and contain us within the bounds and limits of Truth and Sobriety.

13. I have before touched something concerning a common Tradition that might obtain in the generality of Mankind, concerning the Origination of the World and Man; and here we may find a reasonable discovery of something touching the root of this Tradition, namely, the Holy Scriptures, especially that of *Genesis*; for we find very much, among the ancient Heathen especially, touching the Creation of the World, the

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Observation of the Seventh Day, the Flood, *Noah* and his three Sons, though by other Names; and divers other things, wherein though they mingle some of their own wild Notes, yet they bear a great analogy to the Relations in the Scriptures, and seem borrowed from them, or from the *Hebrews*, to whom that great Treasure of the Scriptures was committed. And if a Man consider how many Opportunities there were for the communication of the *Jewish* Learning to the rest of Mankind, even in the ancient times, especially to the *Egyptians*, with whom they long dwelt, and with whom *Solomon* was joyned in affinity; so the *Babylonians* and *Chaldeans* during their Captivity there to the *Grecians*, by the intercourse they had with them after the breaking of the *Persian* Monarchy: it will render it an easie Supposition, that much of the *Jewish* Learning was derived to many of the learned Heathen, though they oftentimes mingled with it some Conceptions of their own: *Plato* and divers other *Grecians* borrowed much of their traditional knowledge from the *Egyptians* and they from the *Hebrews*. *Vide Selden. de Jure Gentium, &c. lib. 1. cap. 2.*

14. Since Man in his first Original is the Work of the most wise intelligent Being, it is evident that Almighty God in this effect of Man did intend an end and scope of this Work: an intelligent Agent acts *ex intentione & volitione*, and therefore proposeth in his Work an end or purpose in it, and the designation of an end in working is the great perfection of an intelligent Agent: Agents that are simply Natural, or that are directed but by implanted Instincts, act by a kind of necessity of Nature, their activity and vigour putting it self forth not by choice or election, but driven by the activity of their nature. And although it is visible that all, even the most necessary operations of unintelligent Causes in the World, are directed unto certain excellent ends, yet the election of and direction to these ends is not in those necessary and natural Causes themselves; but is in that intelligent Efficient that intended and designed that end, and endowed the natural Agent with those active Faculties or Powers which might be proper and serviceable to such ends, and mancipated or bound to them certain Instincts and natural Motions subservient to those ends. As in things that are artificial, my Watch gives me an account of the Hour of the Day, that is the end thereof; but it is an end not designed or intended by the Watch, but of the Artift that made it.

And although in sensible Creatures there seems to be an Image of Intelligence, and they move more perfectly to their several ends of their several operations; as in choice and eating of their food to preserve their individual nature, in generation to preserve their specifical nature, yet the truth is, those designations of the ends of these operations, and the furnishing them with instincts in order thereunto, is due still to that Intelligent Being, namely, the glorious God, which hath by his Wisdom determined these sensible Creatures to these ends, and by these means, in the first institution of their natures.

15. And upon the same reason it follows, That since Almighty God is the Maker and Efficient of Man, it is not only reasonable and just, but natural, and in a manner necessary, that the designation of Man to his end should belong to him that was his Efficient. And therefore
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although the supreme intelligent Being, that Efficient of Mankind hath made Man an intelligent Being, endued him with Will, whereby he is in a manner *Dominus suarum actionum*, and a kind of Image of his Maker, yet he is not the Lord and disposer of his own end, for though Man be made an intelligent and free Agent, and therefore in those actions that move from himself he hath the priviledge of an intelligent Agent, and propounds his end to himself in those actions: yet he was not the Efficient of himself, and therefore cannot proportion to himself the end of his Being, but that belongs only to that intelligent Efficient that gave him his Being; and therefore that Efficient can only be the Propounder of that end which is commensurate to his Being.

16. Since Almighty God is not only an Intelligent Agent, but the highest, most wise, powerful, and perfect Cause; and since it seems to be most suitable to such a wise Being to proportionate the ends of his Works in some measure suitable to the worth and value of the Work. And since Man is the work and effect of God, and noblest work of his that we see in this inferior World, we have just reason to conclude, That Almighty God made Man for some end, and for some such end as may bear a proportion to the nature, condition, and quality of the Work it self.

There seem to be but two ways to know the end that an intelligent Agent propounds in any action or work, 1. The first is plain, explicit, and clear; *viz.* When that Agent reveals and discovers what is the end he intends in the work he doth: and thus it hath pleased the glorious God to acquaint us in the Holy Scriptures, that his intent in making Man was his own Glory, and to make Man a Vessel of everlasting Happiness. But because in this place we are only making natural deductions from the effect of Man by God, I shall refer the consideration of the former to its proper place. 2. Therefore the second is by collection of natural and reasonable Consequences from the nature of the Efficient, and the worth, value, or condition of the Effect; and this *medium* though it be not so clear, particular, and explicit as the former, yet it doth give us some account touching the nature and kind of the end that is probably propounded by the Efficient: but touching the same in the next Chapter.

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A farther Enquiry touching the End of the Formation of Man, so far as the same may be collected by Natural Light and Ratiocination.

VWE may easily observe in general in the Works of Nature, and in every particular thereof, three kinds of admirable Accommodations.

The first is, the Accommodation of every thing to the common beauty and integrity of the Universe: As in a curious piece of Landskip there
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are orderly interspersed Clouds, and Trees, and Flowers, and Rivers, and Houses, and Arches, and Ships, and Fish playing, and Birds of several kinds, some flying, some swimming, some perching, yea various Flies and Worms and Insects, and all contribute to the beauty and ornament and variety of the entire piece, though each hath a particular beauty of its own: So in this great and glorious Frame of the Universe not only the Celestial Bodies, but all the Animals and Vegetables, even to the least Fly, or Worm, or Flower, or Herb, contribute to the beauty, glory, ornament, and variety of the whole; and make up one common demonstration of the admirable Wisdom of that great God, that made it *valde bonum*.

And certainly under this Consideration it is apparently evident, that Man contributes no small portion of beauty and ornament to this goodly Frame of the Universe: For if we should suppose that all the Integrals of the inferior World were as now they are, only destitute of the Creature called Man, it would soon appear that it wanted much of that beauty, and comeliness, and perfection which it now hath by the accession of this excellent Integral of the Universe, which though it hath its residence in the lower region thereof, yet in the common compute and estimate of the whole it contributes to its beauty and integrity.

The second Accommodation of every thing, is to some other part or parts of the Universe; and this though it may be single, or a respect only between some one single part and some other single part of Nature, yet for the most part we shall find every thing in Nature hath an accommodation unto very many other things; the Wisdom of Almighty God being *multifaria sapientia*, hath admirably evidenced it self, in giving almost every thing in its nature a complexed and complicated accommodation to various other things of differing kinds and natures. This is more eminently conspicuous in the Heavenly Bodies; for Instance, the Sun is accommodated to the use and convenience of the Planetary Bodies, and of this inferior World and of every part thereof, by his Position, by his Light, by his Heat, by his Motion it procures Generation for the replenishing of the Earth, raiseth Clouds and Vapours to irrigate and water it, it occasioneth Winds to move and communicate those Irrigations, it gives variety of Seasons, measures of Times, and infinite more accommodations to other things. If we come lower, to the Elementary World, the Air is accommodated as a fit *medium* for the derivation of Light and Influence from the Celestial Bodies; it is the vehicle of the Meteors, the means of Respiration, the food and life of the vital and animal Spirits, and many the like accommodations. If we consider of Animals, we shall find admirable accommodations in them one to another, and especially to Man: the Horse, high-spirited, yet very docible, fitted for swiftness, carriage, and agility, by the make of his Body, his Neck, his Mouth, his Back, his Hoof; the Ox patient, painful, strong, fitted for draught; the Camel fitted for strength, and a natural Saddle for Burthen; the Cow for yielding Milk; the Sheep for Cloathing; the Beasts and Birds of greatest use being most commonly made tame, and affecting a spontaneous subjection to Man: among the Vegetables some are for Food, some for Medicines, some for Smell, some for Taste: nay that seemingly most abject part of Nature, the Insects, even the worst

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as well as the best of them, have their accommodation to other things; some for Food to the more perfect Animals, as Flies, Worms, &c. some for Medicines both for Men and Animals; nay the very venomous Insects are accommodated to the salubrity of the Earth and Waters, collecting the unwholsom Juyce of either into their own consistency; and many that are poisonous and hurtful, yet carry with them Antidotes and Remedies, as Vipers, Scorpions, and divers others.

Although in the lower World there are various accommodations of things one to another, yet the chief and ultimate accommodation of things seems principally to terminate in Man. The Grass of the Field is accommodate to the use of Animals for their food, and so are the Insects for the food of Fish and Fowl, but these in their last particular accommodation are for the food or other use of Man. On the other side, Man is accommodate to the convenience and use of the Vegetables and Animals, but not in a way of Subsistence or Service, but in a way of Regiment, Order, Empire, and Protection, which he is enabled to exercise over the Creatures of greater strength and bodily force, by the advantage of his Faculties wherein he exceeds them: Thus he is accommodate to the Vegetable Nature, by Planting and Husbandry; to the Animal Nature by subduing the unruly and hurtful, by the disciplining and managing the docible; by protecting the domestick, by providing for their wants. The accommodation of Brutes to Men is an accommodation of an Inferior to a Superior; the accommodation of Man to Brutes is an accommodation of a Superior to an Inferior, an accommodation of Regiment and Protection.

The third sort of Accommodation is of every thing unto it self; either in relation to its proper *Species*, by propagation of its kind; or in relation to its individual nature, which is that which I principally mean to speak of. We may observe at least in every Animal, 1. An accommodation of Faculties suitable to his nature, use, and convenience, which are principally these; Cogitation, Sensation, Phantasie or Imagination, Appetite and power to Move it self, though in various degrees of perfection. 2. That all these Faculties are terminated in a sensitive Life, or Life of Sense, and go no farther. 3. That all those Faculties are exactly fitted with Organs proportionate to their Faculties, and the specific perfection of them: the Organs subservient to the Faculties of the meanest Insect, are as exquisitely accommodated and fitted thereunto, as the Organs of a Horse or an Elephant are accommodate to the specific Faculties of that Animal. 4. That the wise God hath proportioned Objects of the Appetites of every Animal exactly suitable to those Appetites, and a connatural prosecution and dexterity in the asscution of them: so that no natural Desire or Appetite is in vain, or notional only, but really fitted and accommodated with an Object proportionable to it. 5. That every Animal hath its highest complacency and contentment in the attainment of the suitable Object of its Appetite, and this is its commensurate Happiness; the Fox, or the Lion, or the Otter hath no greater dexterity in the getting of his Prey, nor greater contentation in his acquett; than the Bee hath in getting Honey, or the Spider in catching his Fly.

These things being thus premised, we have therein generally included the

the natural Method whereby we may by the Light of Nature search out the true and special End for which we have reason to believe the great and wise Efficient made Man.

It is true, that some things Man hath in common with the rest of created visible Beings, as that he is a corporeal Being, hath Life and Sensation, and is a beautiful Piece of the Furniture of this lower World. In these things therefore, or by them, we are not to seek that special End for which man was made; because under these and the like Considerations he seems to have a common parity with other created Beings.

But our search must be, 1. Whether there be not some peculiarities in the Humane Nature, some Faculties and Powers, something in his Constitution, and some adaptations and appropriate accommodations therein peculiar to his nature, and of a far more advanced use and perfection than those of the best of other inferior Animals: For if we find such in Man, we have just reason to believe that the most wise Efficient of the Humane Nature, as he raised Man to a greater eminence not only of gradual but of specifical perfection above the common Animal Nature, so he designed a more excellent and noble End for this more excellent and noble Work: For thus it became the greatest Wisdom, to design a more noble End to that which he constituted a more noble Being. 2. We are also to search wherein this excellency and preference of the Humane Nature above the Animal consists: For as the former Consideration gives us a general Conclusion, That because the Humane Nature is more excellent than the common Animal Nature, therefore the End or Design of the Constitution of the former is of a nobler kind than the Design of the Constitution of the latter: So this particular Consideration of the excellencies of the Humane Nature above the Animal, gives us some Estimate, *Crises*, or Indications what those Ends may be which the wise Creator intended in the making of Man, namely, such Ends as hold proportions to those eminencies and excellencies wherein the Humane specifically exceeds the Animal Nature.

Plato, though a great Assertor of the Creation of Man by the Wisdom and Power of Almighty God, yet in his 7th Book *De Legibus* seems to have too light an Expression concerning the End of the making of Man, and of those many excellencies in the Humane Nature, namely, *Hominem Dei ludo esse fictum, atque id verè ipsius optimum esse*. It is below the Dignity of the Divine Wisdom, to think that he made Men, and endued them with those excellent Faculties, only to behold them as a Play or a Scorn; or as the inconsiderate part of Mankind please themselves with beholding of Interludes, or Cock-fighting, or Bear-baiting: the Comical part of the Lives of Men are too full of Sin and Vanity, and the Tragical part thereof too full of Sin and Misery to be a delightful Spectacle unto the pure and wise God, who certainly propounded more serious Ends than such for so noble a Structure.

The Saying therefore of *Plato* must be understood only analogically, and *Epictetus* may be his Scholiast, who wisheth every Man to remember, *Te esse actorem talis fabula qualis Magistro probata fuerit; si brevis, brevis; si longa, longa: si mendicium agere te voluerit, fac eam quoque personam ingeniosè representes; ita si claudum, si principem, si plebeium: hoc enim tuum est, datam personam benè effingere, eam autem eligere, alterius*. Teaching

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us by the similitude, that every Man's Station is subject to the Divine Providence, and every Man's Duty is to be contented with it.

But to return to the Consideration of the specifical Excellence of the Humane Nature above the Animal Nature, and the deduction of those Ends which we may from thence reasonably conclude to be specifical to him, and intended by his wise Creator.

1. It is apparent that Man is the noblest of all the visible Creatures, at least of this inferior World, the Complement and chiefest Ornament thereof, without which it would be destitute of the most glorious Integral thereof: that all the visible Creatures of this inferior World as it were center in him, and are directed to him or his use, as their immediate End: that he is an Abstract or *Compendium* of the greater World, as might easily be evidenced by the induction of particulars: that he hath complicated in him all the excellencies of the Elementary, Vital, and Animal Natures: that he hath superadded thereunto a singular beauty, and majesty, and usefulness in the Structure of his Body, the admirable Faculties of Intellect, Reminiscence, and Ratiocination, the Faculty of Speech, institution of Signs to express his inward Conceptions, Principles, and Habits, Intellectual and Moral liberty and empire of Will, whereby he may, if he please, govern his sensitive Appetite, Passions, and inferior Faculties: So that he is *nexus utriusque mundi*, the common Angle wherein the highest and noblest of Material and Corporeal Nature is joyned to the Spiritual and Intellectual. By all which, and many more Perfections, he is the noblest Instance of the Divine Power, Wisdom, and Goodness in this inferior World.

The Universe indeed is the great and goodly Type and Image of the Excellency and Glory of its Creator, but it is a vast and comprehensive Volume, not comprehensible by any Understanding but his that made it: But this lesser World Man is a more compendious Abridgment, nearer unto us, and more discoverable by us, and though yet it hath exercised the investigation of most industrious Minds and Searches without a full and perfect discovery of the least part of all its Eminencies, yet in respect of its vicinity and obvioulness to Observation it yields a distinct and perceptible Evidence to us of the Wisdom of its Maker. Thus the Humane Nature objectively and passively exhibits unto intelligent Beings a wonderful and admirable manifestation of the incomparable Wisdom, Goodness, Power, and Excellency of him that first created it, and this was one End of Almighty God in the Creation of Man. And although it be true, that such is the Self-sufficiency and Happiness of Almighty God, that it is not capable of any accession by all the Instances of his Wisdom and Goodness in the Works he hath made, nor by any Glory or Praise that from them can return unto him; yet it is not an End unworthy of the most perfect Being, to render his Magnificence and Goodness conspicuous, and to receive that deserved Honour and Praise of his Works that is the just Tribute due unto him.

2. The Divine Essential and Eternal Goodness is inseparable from him, and this is the root of the Divine Beneficence, which latter though in its effluxes and emanations it be under the regiment of his own most holy and wise Will, yet it is diffusive and communicative. That the World was at all made, is the Effect of this Divine Beneficence, which
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when it had nothing besides it self unto which it might communicate it self, it made all things, that according to their different natures and receptivities might participate of the Divine Beneficence: To things vegetable he hath given the Faculty of Life, Vegetation, and Growth; this is one participation of the Divine Goodness, *per modum esse viventis*: and again, he communicates to these Faculties suitable Objects answering those Vital Faculties; to Sensitive Nature his Beneficence hath communicated those Faculties of Sense as well as Life, and then communicates to them a farther efflux of his Beneficence, by communicating to them the Objects grateful and useful both for Life and Sense: thus his Beneficence is communicated to them *per modum boni sensibilis*; but to Man his Beneficence is communicated not only *per modum boni vitalis & sensibilis*, which yet he enjoys as other Creatures, but *per modum boni intellectualis & voliti*.

First, by giving him those nobler Faculties of Intellection and Will, and then by communicating to those Faculties Objects suitable to those Powers or Faculties, namely, Intellectual Truths to his Understanding, and Moral, Rational, and Divine Good to his Will; and among all those, *vera & bona*, that are communicated to these Faculties by the Divine Beneficence, God himself, his Goodness, Truth, Will, Perfection, are the chiefest *verum* and the chiefest *bonum*. So that no Creature below Man is capable formally to know, to love, to enjoy God, as the chiefest Truth and chiefest Good: And this also seems to be another End of the Creation of Man, that being made a Creature endued with Understanding and Will, he might be receptive of the *Effluxus* of the Divine Beneficence in a nobler way than the other visible Creatures of this lower World.

3. As under the first Consideration Man is more eminently an objective manifestation of the Divine Glory, than other visible Creatures; and as under the second Consideration Man is more receptive of the Divine Beneficence than other visible Creatures: So upon farther examination we shall find, that Man was made in a capacity to be a more active Instrument to serve and glorify his Maker than other visible Creatures, which was another End of his Creation specifically different from the End of other visible created Natures, which will appear by the farther consideration of those two great distinguishing Faculties, his Understanding and Will.

I shall not go about to make a large Description of those Faculties, or the Operation, but only observe so much touching them as may reasonably evidence the preference that Man hath therein above the inferior Animals, and the Inferences that arise thereupon touching the End of Almighty God in the making Man.

And first for the Intellective Faculty: As in Animals the Faculties of Sense internal and external, especially the Visive Faculty, placeth Animals in a rank of Being far above the insensible Creatures, and accommodates them exquisitely to a Life of Sense; so the Intellective Faculty placed in Man puts him into a rank of Beings far above the most perfect Animals, and accommodates the Humane Nature to an Intellectual Life. And the preheminance of this Faculty above the Faculty of Sense, will appear if we consider the Operations thereof; I shall instance but

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in two, namely, intellective Perception and intellective Ratiocination or Discourse: 1. For the intellective Perception; the Understanding perceives many things which are not perceptible by Sense or sensitive Phantasie or Imagination; for Instance, it hath the perception of Substance or Being abstracted from all sensible qualities: it hath the perception of the truth or falsity of a Proposition, it perceives the Conclusion and the Evidence thereof in the Premises, and many more intellectual Objects which never did nor can fall under the perception of Sense or Imagination: And although we cannot clearly understand all the Operations of the Brutal Phantasie, because we are distinct from them, and they have not the instrument of Speech intelligible by us to express their perceptions; yet we may know that this is true by our selves, for we may perceive that we do perceive these Objects not to be perceptible by our Faculties of Sense, but by some other Faculties distinct from that of Sense or sensitive Imagination. Again, in those Objects that are objective to Sense, the intellective perception discovers somewhat that is apparently unperceived by the Sense or sensitive Imagination; for Instance, the Heavenly Bodies, the Sun, Moon, and Stars are equally objected to the view as well of Animals as Men; but yet by the help of intellective perception Man perceives that in those Objects which neither the Brutes, no nor Man himself by the bare perception of Sense or sensitive Phantasie doth not, cannot perceive: The perception of Sense gives us the Sun no bigger than a Bushel, and the Stars than a Candle, cannot discover an inequality of their distance from us; judgeth the body of the Moon to have as many changes in figure and quality as it hath various *Phases* or Appearances, the Sun really to set, the Limb of the Heavenly Horizon to be contiguous to the Earth: but the intellective perception finds the quantity of the Sun and Stars bigger than the Earth, and by the Parallaxes and Eclipses finds the Stars more distant from us than the Sun, and that than the Moon; perceives distinctly their several Motions, Orders, Positions, and makes distinctions and computations of Time and Duration by them, and over-rules and confutes the perception of Sense and Imagination by another kind of perception, above the perception of Sense. 2. Touching Ratiocination or Discursive Operation, the procedure thereof is above the reach of the sensitive Phantasie, though this seems to carry some weak and imperfect Image thereof: For Instance, sometimes not only the *media discursus* and the *processus discursivus* are out of the reach of Sense, but the very *subjectum discursus* is imperceptible to Sense: such are that *processus discursivus* of the Understanding touching complexed Notions or Universals; touching the abstracted Notions of Being, Substance, Entity, and transcendents in Metaphysics; such are also the discursives of moral good and evil, just, unjust, which are no more perceptible to Sense than Colour is to the Ear; and yet touching these Subjects the Intellect forms Discourses, deduceth Illations and Conclusions. Again, in matters Mathematical and Physical, though in the concrete, and in their subjects they are objective to Sense, yet the *media* and *processus discursivus* whereby the Understanding makes Conclusions, and Inferences, and Illations touching them, are of a range and kind quite above the range of Sense or sensitive Imagination; thus upon certain *data* or *postulata* in Geometry, the Intellect forms Conclusions,

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which though Mechanically and Experimentally true, yet are elicited by a *Processus discursivus*, quite above the activity of sensitive Phantasie. And though matters Physical, Bodies, and Tangible qualities, and their several powers, manner of production, and divers other things relating to them are sensible Objects; yet the Intellect useth a *Processus discursivus*, whereby it investigates Truths, and draws Conclusions that are quite above the scantlet of Sense or Phantasie, ascending up from the Effect to the next Cause, and thence to the next, and thence gradually to the First Cause of all things. So that though oftentimes the foot or root of the *Discursus intellectivus* be bottomed in some sensible Object, perchance of no great moment and importance, yet by this *Processus discursivus* the Intellect riseth higher and higher, and quickly taketh a flight out of the ken or reach of Sense, in Consequences, Discursive Inferences, and Conclusions; and follows the Chain higher and higher, till it come to the uppermost ring thereof, fastened, as the Poets wittily feign, to the Throne of Almighty God.

And thus far of these two excellent Operations of this Intellective Faculty, namely, Intellective Perception and Discourse. But besides these operations and active exertions of the Understanding, there seems to be two kinds of accommodations to it, which are admirably serviceable to the improving and perfecting of its operations; the one internal, the other external.

The internal is this; As we find in the Sensitive Nature certain congenit or connatural Instincts, whereby they are secretly and powerfully biassed, and inclined, and carried to their proper sensitive Good, either individual or specifical; such as are their inclination to that Food that is suitable for them, their *Appetitus procreativus*, their care for their Young, and infinite more; so there seems to be lodged in the Intellective and Rational Nature certain Rudiments and Tendencies, whereby they are carried to the good of an intellectual Life, certain *communes notitie*, lodged and connaturally implanted in the Intellect, which serve as a kind of connatural inward stock for the Understanding to work upon, and also as a secret bias and inclination to carry him on to the good of an intellectual Life: Such as are a secret inscribed Notion that there is a God, that he is to be worshipped, honoured, served, and obeyed; and certain inscribed common Notices of Moral Good and Evil, that make him propense to Justice, Honesty, to do as he would be done by, and the like. And although evil Customs, and the prevalence of the sensual Appetite may in a great measure weaken and impair those common Notions when they come to particulars and particular applications, yet it is evident in all Ages and Nations, by a kind of connaturality Mankind hath ever retained these two great, and noble, and discriminating denominations, namely, first to be *Animal religiosum*, arising from the energy of those *infinite notitie* relating to God; and to be *Animal politicum & sociale*, arising from these *infinite notitie* of Moral Good and Evil, and those connatural inscriptions of Morality implanted in his nature, which are the great and chief support of humane Society.

The external accommodation of the Intellective Faculty, is that admirable Wisdom and Goodness of God, that hath so ordered things, that first of all Mankind is accommodated with those Faculties of Sense, especially

especially that of Sight, whereby he may perceive all sensible Objects that arrive within the distance of their activity: And secondly, in that he hath exposed a very considerable part of his admirable Works to that Sense of his. Had Man been born blind, though his intellectual Faculty had been excellent, yet that Faculty had been very unactive, in this Life at least, because the *Basis* or Root of much of its operation depends upon the reception of sensible visible Objects: and had he been endued with Sense, yet if the excellent Works of God had been at so great a distance that they had not been perceptible by him, he had wanted a great contribution to the perfecting of his intellectual Faculty. The Divine Wisdom and Goodness hath so ordered things, that he hath not only that receptive Faculty of Sense, especially that of Sight, but hath also presented to his view a great and considerable part of the Universe with great advantage, beauty, and clearness, the inferior or Elementary World with all its variety and store, and the prospect of the goodly Celestial Bodies, their positions, motions, beauty, order, and excellence. And this goodly *Apparatus* of the Universe thus objectively derived to his Understanding, furnisheth it with an outward Stock, upon which it may trade and exercise it self with great delight and advantage; *viz.*

1. The knowledge of things Physical and Natural, the State, Order, and Oeconomy of Nature; the Virtue, Efficacy, and Energy of Second Causes, and their Effects: herein he hath a vast extent of the Inferior and Celestial World to exercise himself in, and certainly this bare knowledge is a thing of excellent improvement and contentation of the Intellect, and far exceeds all sensible Delights; in so much that many wise and knowing Men have chosen to sequester themselves from the common Employments and Contents of Mankind, for the sake of a Life of Philosophical Speculation: But this is the lowest part of that knowledge that is hereby acquirable, there is yet a more noble and excellent knowledge acquirable hereby, that advanceth and improveth the Intellectual Nature to a very great and high perfection.
2. Therefore that knowledge that is hereby acquirable is the knowledge of the Glorious God, the first Creator, and great Conserver and Governour of all things. I have before said, that the Goodness of God had lodged an inward Stock in Man whereby to improve his Intellectual Nature, namely, those *communes notitiae* of the Existence of a God, and that he is to be worshipped, served, and obeyed, the common Root of Religion in Mankind; these are in him like the first Rudiments of the *Fetus*, the *Embryo* of Religion, or the Egg as it were out of which it is hatched. The contemplation of the admirable Works in the World doth exceedingly fortifie and improve those first Rudiments of Natural Religion, digests them into their just formation. In these we see, and admire, and glorifie the Power, the Wisdom, the Goodness, the Presence of God; from these we learn his Unity, his Eternity, his Immenfity, his Providence, his Justice, his Mercy: And as thus *ascendendo* we learn to know God by his Works, so again *descendendo* we learn our duty to praise, glorifie, magnifie, honour, love, fear, and obey him, to depend upon him, to delight in him: and by this means Natural Religion arrives to a great advance, and the Intellectual Nature mightily perfected and improved; and Man becomes not only a passive, a receptive Instrument to glorifie his

his Maker, but an active Instrument of his Glory; which was, as is premised, another End of Almighty God in the making of Man, namely, That he might be an active intellectual Instrument to glorify God, and in glorifying him, the more fully to enjoy him, and his favour, love, and goodness.

4. As thus the Intellectual Faculties render Man fit actively to serve and glorify his Maker, so also that other Faculty of his Will contributes also in like manner to render him fit for that employment. We shall for this purpose only consider these two Properties in the Will.

1. The liberty of the Will, whereby it hath power to determine it self, and is free from all force and coercion; and upon this account, namely, that Man is not only an intellectual Creature, but also hath liberty of Will, he becomes a Creature properly susceptible of a Law, and capable of Rewards and Punishments: that which acts out of coercion, as bare Instruments, or out of necessity, as bare Natural Causes, or a determined Instinct, as Brutes, are not properly capable of a Law but only analogically, and what they do is not properly an act of Obedience, because they cannot ordinarily do otherwise. Therefore as his Intellectual Faculty gives him the power to know his duty, so the liberty of his Will is that which gives him the power truly to obey.

2. The second property of the Will is, that it is moved and drawn to that which is good, or at least what appears to be so. The sensitive Appetite is a power subservient to a sensitive Nature, and carried to a sensible Good; but the Will is a rational Faculty, a Faculty of an intellectual Nature, and carried to an intellectual Good as its proper Object, and therefore with most earnestness, to the most noble and supreme Good, which is Almighty God. So that as by the liberty of his Will Man is capable to be an active Instrument to serve and obey his Maker, so by this property of his Will he is by a just suitableness drawn to will and desire, and in enjoyment to delight in God as the chiefest Good, the most noble and suitable Object of its choice and motion: And we may observe, that the Divine Goodness and Wisdom, to promote and advance this act of the Will, in choosing and loving Almighty God as his chiefest Good, hath exhibited himself unto Mankind in all the manifestation of Goodness and Beneficence imaginable, hath made him Lord of this inferior World, provides for him, supplies him; and endears him to himself with all those manifestations of Mercy, Goodness, and Bounty that his nature is capable of, whereby he may be won to love God not only as the chiefest Good, but also as his chiefest Benefactor. And thus by the due consideration of both these Faculties of Understanding and Will, we may reasonably conjecture, that the End of Almighty God in creating Man, was to make such a Creature as might actively know, serve, glorify, love, and obey his Creator, and in that his Service, and Obedience, and Love, enjoy the Love and Favour of that God whom he thus loves and obeys, because we find his Faculties admirably fitted for such an end and use; and certainly the wisest Agent must needs be supposed to design such an End to any Work as is suitable and commensurate to the thing he makes: And these seem to be those Ends for which the wise God created this noble Creature Man, which do more specially relate unto God.

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5. I shall now consider the Ends of Man as they mutually relate one to another. There are these particularities in the Humane Nature that singularly commend Man each to other; namely,

1. A great love and propensity to Communion and Society; *Aristotle* somewhere in his *Politicks* tells us, that among Animals Bees seem to be the most sociable, but that Man is by nature more sociable than Bees.

2. That there are **implanted** certain connatural tendencies, or moral Principles that do most **naturally** suit with humane society; such as the first Rudiments of natural Justice, Charity, and Benignity, without which it is impossible that humane society can be upheld. And this appears hereby, that though it is apparent that evil Educations and Customs have much defaced and weakned the Principles of Morality among Men, yet they could never extinguish it, but even among the Briars and Thorns the Rudiments of natural Justice and Morality have arisen, and all the Order, and Government, and common Regiment of Societies have been maintained and preserved by it:

Naturam expellas furca licet, usque recurret.

3. That the benefit of Speech, and those other instituted Signs peculiar only to Mankind are of great and principal use in maintaining and **upholding** Society and Communication between Mankind: by these **each Man** communicates his Thoughts and Conceptions to another; each Man instructs, directs, and adviseth another, and makes another partaker of his own Knowledge, Wisdom, Counsel, and Advice; by this, Contracts and mutual Commerce are upheld, the mutual Faith of each other given and taken, and infinite other advantages: by all which particularities and accommodations of Humane Nature subservient to mutual Society and Love, it seems reasonable to conclude, That the wise God intended as one of his Ends of the Creation of Man, that Man should be beneficial to Man, should be instrumental for the good of humane Society.

4. There appears in Man, besides the speculative power of his Intellect, a certain admirable ingeny and dexterity in discovering and perfecting divers Arts as well Mechanical as Liberal, for the benefit, delight, and convenience of the Humane Nature: The great Arts of Government Political, Civil, and Oeconomical, the Arts of Husbandry, and Improvements of Nature for Food, Clothing, Medicine; the Arts of Geometry, Arithmetick, and artificial Measuring and Partition of Time; the Arts of Architecture, Navigation; the Art of contriving Letters, Writing, Printing; the Arts of Musick, and Observations of the Laws, Orders, and Rules of the Motions and Positions of the Celestial Bodies, or Astronomy; and infinite more, which by the Ingeny and Industry of Man have been invented, discovered, or perfected in all succession of Ages, for the use, benefit, and delight of Mankind.

And although we may observe an admirable sagacity and dexterity in many Animals, in certain kind of artifices convenient for their use and the use of Mankind, as in the nidification of Birds, Bees, Silkworms, and divers others, yet Man hath still the prelation; 1. In respect of the variety and multiplicity of his Artificial Inventions and Effections:

Effections: commonly the Artifices of Irrational Natures are single and determinate, but the Arts invented and effected by Man are multifarious, various, and almost infinite. 2. Besides, his rational Faculty is more excellent and perfect than the Faculties of other Creatures in relation to Arts, and more fruitful in it. 3. That one Instrument his Hand, which *Aristotle* well calls *Organum organorum*, is admirably suited and fitted to all variety of Artificial effections more than any of the Organs of other Creatures, as our own Experience without the induction of many particulars may easily demonstrate and evince. By all which, and many other peculiar and distinguishing adaptations and accommodations of the Humane Nature; we may reasonably conclude, That the wise God in lodging of these particularities in the Humane Nature, had one End and Design to make Humane Nature beneficent and useful to Mankind and to humane society. And therefore that Precept so often inculcated by Christ and his Apostles of Love, Charity, and Beneficence from Man to Man, was no other than the re-enacting of that old Commandment, and directing Man to one of those Ends for which he was made, and which hath so many Indications of it self by the peculiar Constitution, Make, and Accommodations of our Faculties.

6. But yet farther, the Creation of Man seems to have a farther End even in relation to this inferior World, and the Animals and Vegetables themselves, which deserves to be observed.

First, We may easily observe among the Creatures of this lower World inferior to Man, that there are several Ranks of Beings, like so many several Provinces, but especially the Animal and Vegetable Province. Among Animals some are fierce, strong, and untameable, as Lions, Tigers, Wolves, Foxes, Dragons, Serpents, and these stand in need of some coercive power over them, that they destroy not the *Species* of more profitable, and yet weaker Animals. Again, there are some Animals that are more useful and serviceable to Man, which are more obnoxious to be preyed upon and depredated, and their *Species* to be utterly destroyed by the invasion of the more fierce, voracious, and unruly Animals, as Sheep, Cows, and divers others, which stand therefore more in need of protection and preservation; and those of the more voracious and fierce nature are less subject to be disciplined, tamed, and brought into subjection; the other are by their very nature more domitable, domestick, and subject to be governed: and the like we may observe in many kinds of Fowls; as there are Beasts of prey so there are Birds of prey, and others more manageable and obnoxious to injury.

Again, if we look into the Vegetable Province, some Herbs and Plants are more tender and delicate, and stand in continual need of cultivation, and their very Seeds stand in need of a more than ordinary care both in reference to their preservation and prolemination, without which in a little time their very *Species* would be lost, or at least strangely degenerate; such are many sorts of Fruit-Trees, Herbs, and choice Flowers. Again on the other side, there are multitudes of spontaneous productions of Vegetables, or such as are so hardy and prolific, though less profitable or useful, that without a superintendent industry to correct their excess, would usurp the whole face of the Earth, and make it a Wilderness, as some sorts of hardy Trees, Weeds, Thorns, Briars,

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and other more unprofitable excrescences; nay the very Superficies of the Earth without a superintendent Cultivation would grow either marshy and boggy by the defluxion of Waters, or altogether weedy and over-grown with excessive excrescences: And though much of this either infertility or unprofitable excrescence might be the fruit of the Sin of Man, yet the Wise God that foresaw this Sin and the Effect thereof, was not wanting in providing a fit provisional Remedy against it; that so this part of the Work of his Creation might retain its beauty and use. And though after the Fall of Man this difficulty of this Employment was greater, by reason of the Curse that thereby befell the Earth, yet even before the Fall the nature of his Employment was the same: *He put the Man into the garden of Eden, to dress and to keep it.* Gen. 2.

In relation therefore to this inferior World of Brutes and Vegetables, the End of Man's Creation was, that he should be the Vice-Roy of the great God of Heaven and Earth in this inferior World; his Steward, *Villicus*, Bayliff or Farmer of this goodly Farm of the lower World, and reserved to himself the supreme Dominion, and the Tribute of Fidelity, Obedience, and Gratitude, as the greatest Recognition or Rent for the same, making his *Usufructuary* of this inferior World to husband and order it, and enjoy the Fruits thereof with sobriety, moderation, and thankfulness.

And hereby Man was invested with power, authority, right, dominion, trust, and care, to correct and abridge the excesses and cruelties of the fiercer Animals, to give protection and defence to the mansuete and useful, to preserve the *Species* of divers Vegetables, to improve them and others, to correct the redundance of unprofitable Vegetables, to preserve the face of the Earth in beauty, usefulness, and fruitfulness. And surely, as it was not below the Wisdom and Goodness of God to create the very Vegetable Nature, and render the Earth more beautiful and useful by it, so neither was it unbecoming the same Wisdom to ordain and constitute such a subordinate Superintendent over it, that might take an immediate care of it.

And certainly if we observe the special and peculiar accommodation and adaptation of Man, to the regiment and ordering of this lower World, we shall have reason, even without Revelation, to conclude that this was one End of the Creation of Man, namely, To be the Vicegerent of Almighty God, in the subordinate Regiment especially of the Animal and Vegetable Provinces.

1. The Earth, and Vegetables, and Animals stand in need of such a Superior Nature to keep them in a competent order: an ordinary Observation lets us see how soon those Regions uninhabited by Mankind become rude Forests and Wilderesses, how destitute they are of those mansuete Animals, being exposed without a protector to be the prey of savage Beasts.

2. Man, by the advantage of his intellectual sagacity and contrivance, is fitted for this Regiment: For although there be many Beasts much stronger than he, as Lions, Tigers, Wolves, and others, yet he is by the advantage of this Faculty enabled to avoid, and over-match, and subdue them, and by the advantage of this Faculty hath power to reclaim those

those that are reclaimable, though of greater strength than himself; as Horses, Elephants, Camels, and to protect and provide for the safety and food of those that are either by Art or Nature rendred mansuete, as Horses, Sheep, Oxen, and to make them subservient to his ends and uses.

3. Though of all other visible Creatures Man seems the least provided with natural offensive Organs, yet by the advantage of his intellectual Faculty and that admirable *Organum organorum* his Hand, he is infinitely advantaged with artificial helps to defend himself, and subjugate the most contumacious and furious Brute: The Lion, the Bear, the Tiger, the Wolf, the Horse, the Elephant, the Bull are furnished with natural offensive and defensive Munition; but by the advantage of the Hand, Man is able to provide himself more serviceable Artillery, as Swords, Pikes, Arrows, Darts, Nets, Trapps, Toyls, and to use them with greater security and advantage.

4. We may also observe a kind of connatural necessity imposed upon Man to exercise this Oeconomy and Regiment over Animals and Vegetables, for his own preservation and defence; without the exercise of this Regiment he would be over-run with savage and noxious Animals, he would want the speed of the Horse, the industry of the Ox, the Clothing of the Sheep, the Milk of the Cow: without this Regiment he would be without Corn to feed him, Wine to refresh him, Medicine to recover him, the Earth would become a barren Forest or Wilderness, over-run with Bryars and Thorns. And it is observable, That as the wise God hath put all things in motion and action, the Heavenly Bodies, the Elementary Natures, the Meteors, the Animals; so it is his Wisdom to preserve Man also in bodily as well as mental motion, and by a kind of necessity driven him from sloth and idleness; if he will live he must eat, and if he will eat he must labour. Though by the Fall of Man his labour is fuller of toyl and vexation, yet labour and industry was part of his duty and employment in the very state of Innocency.

As he hath a busie office and employment committed unto him, namely, to be God's Vicegerent and subordinate Officer in the Regiment of the Vegetable and Animal Provinces, so he is under a necessity for his own preservation, and under an advantage for his own profit and convenience, industriously and vigilantly to exercise the Province committed to him.

Thus the infinite Wisdom of Almighty God chains things together, and fits and accommodates all things suitable to their uses and ends.

5. And yet farther, there seems to be found in the Humane Nature certain Affections that carry it on effectually to this employment, his love to himself, his safety, his convenient supplies, wealth, and plenty, invite industry and pains, and a complacency and delight attends the acquets of honest industry and pains.

2. Hitherto we have seen this part of the End of Man's Creation, namely, to be a subordinate Rector of this inferior World, a Tributary King thereof by Investiture from God himself, which Investiture was conferred upon Man in his first Creation, *Gen. 1. 29.* and again renewed after the Fall and Flood, *Gen. 9. 3. Psal. 8. 6. Thou hast made him to have*

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dominion over the works of thy hands, thou hast put all things under his feet. But there is yet another Office, another End in the Creation of Man, with relation to this inferior World and the Furniture thereof.

Almighty God in the goodly Frame of this World hath manifested the exceeding greatness of his Wisdom and Power, as in the Heavenly Bodies, the Sun, the Moon, the Stars, the Elements, the Meteors, the Minerals, the Vegetables, the Animals, they all make up a most magnificent and stately Temple, and every Integral thereof full of wonder, and bears the Inscription of the infinite Wisdom, Goodness, and Power of the Glorious God; yet still all these are but passive, receptive, and objective reflections of the Goodness and Glory of God: there is not a Grass in the Field, not a Tree in the Forest, nor the smallest insect Animal, the Fly, the Worm, but bear an Inscription of the incomparable Wisdom, Power, and Goodness of the Glorious God. But yet these cannot actively glorify their Maker, they understand not their own original nor their own excellence; the noblest Cedar in the Field, nor the vastest Elephant in the *Indies*, nor the goodliest Whale in the Ocean have not the sense of their own excellence, nor from whom they had it, nor can actively and intentionally return Praise and Glory to their Maker, for they want an intellectual Principle to make those discoveries or returns.

6. The Glorious God therefore seems to have placed Man in this goodly Temple of the World, endued him with Knowledge, Understanding, and Will, laid before him these glorious Works of his Power and Wisdom, that he might be the common Procurator, the vicarious Representative, the common High Priest of the inanimate and irrational World, to gather up as it were the admirable Works of the Glorious God, and in their behalf to present the Praises, Suffrages, and Acclamations of the whole Creation unto the Glorious God, and to perform that for them, and as their common Procurator, which they cannot actively, intellectually, and intentionally perform for themselves. It is true, the whole Creation doth objectively and according to their several capacities set forth the Honour and Glory of their Creator, and cry, *Blessing, honour, glory, and power be unto him that sitteth upon the throne, and unto the Lamb, for ever and ever*; Revelat. 5. 13. and the Psalmist, *Psal. 148.* calls upon them all to perform that duty: But Man above all visible Creatures is able to perform that duty intellectually and intentionally, and fitted to be the common Procurator and High Priest of unintelligent Creatures, intelligently on their behalf to present all their Praises and Acclamations to their common Creator, Lord, and Sovereign.

I have now done with those Ends for which we may reasonably conjecture Man was made; First, in relation to Almighty God; that he might actively Know, Love, Serve, Honour, and Obey Him: Secondly, in relation to others of Mankind; mutual Beneficence, Justice, and Charity: Thirdly, in relation to the inferior Creatures; to be their subordinate Regent under God, and to be the common Priest for the rest of the visible Creation, to present their Recognitions and Praises to their Maker.

I now come to consider what we may reasonably conjecture might be the End of the Wise and Glorious God in the Creation of Man in relation

relation to himself. The former Ends were such as were terminated without him, either to God, the rest of Mankind, or the unintellectual Creatures; but this Enquiry is touching that End that is terminated in himself; the former were Ends of Office or Duty, this of Fruition or Enjoyment.

And in this Enquiry I shall first proceed Negatively, to shew what this End is not; and then Affirmatively, as far as the Light of Nature and natural Reason will dictate (for in this Discourse at present I go no farther) what it is, or may be reasonably concluded to be.

As to the former, or Negative Procedure,

1. Therefore I say the proper, peculiar end of Man in point of fruition is not a sensible fruition, or a Life of Sense, but somewhat that is higher, nobler, and of another nature. It is true, that as Man agrees in the animal Nature with other Animals, and consequently hath a Life of Sense as well as they, therein they participate of one common end: but that which we are enquiring concerning, is, the specifical peculiar End of Man, appropriate to, and designed for him as such; and therein it is that we affirm the end of his fruition is not the end of a sensible Being, but of a Nature specifically and vastly different from it. And this I shall prove, and also illustrate by these following Reasons and Conclusions.

1. As I have before observed the Method of search and enquiry into the specifical or peculiar end of any Existence, is by observing the specifical and peculiar existence of Faculties of that Being; for we have reason to think, that the specifical and peculiar end thereof is somewhat that bears a specifical proportion to those Faculties and Excellencies: thus we reasonably conclude, That since the Animal Nature hath a specifical and peculiar excellence and faculty above Vegetables, namely, the faculty of Sense, that therefore its proper end of fruition is not a bare fruition of a vegetable Life or the commensurate Good thereof, but a Good that is superior, and accommodate to the Life of Sense. And upon the same account we may conclude, That since the Excellence and Faculties of the Humane Nature are of a higher Make and Order than that of Sense, namely, an intellectual Faculty; therefore the peculiar end of the Humane Nature is not terminated in a Life of Sense, or a fruition of that Good which is not only proportionate or accommodate to a sensible Life or Nature, but in a fruition of something answerable to the eminence and nature of an intellective Faculty. Now it is apparent to any considerate Man, that the Operations, the Objects, the Delight of the intellectual and rational Faculties of Understanding and Will, lye higher than the Faculties of Sense, and have little communion with them: The very contemplation of natural Causes and Effects, if we went no higher, are not in order to a sensitive Good, but often deprive us of it: the contemplation and action of moral Virtues are above the reach of Sense; tranquillity of Mind, peace of Conscience, perception and fruition of the favour and love of God, the satisfaction of the Understanding in that contemplation, the motion and tendency of the Will towards it as its chiefest Good: These are things that delight and please the Intellectual Nature, (if not basely and grossly immersed in, and prostituted to the Animal Nature) are more grateful, sapid, and delightful

delightful to the Mind, than the best *Apparatus* or Provisions of a sensible Good.

2. Again, it is apparent that the very excellency and preference of the Intellectual Nature doth render the fruition of the Good of Sense less good, less satisfactory, than it is to the Brutes: the Good of Sense is so far from being the specificall or peculiar end of Man, that the very Make, Texture, and Order of his nobler Faculties renders it not only incomplete, but deficient, and less competent to him, than if he had not this excellency of Faculties which are specificall to his Nature. And therefore certainly it can never be that Good that is the appropriate end of fruition in Man, for it is less good to the Beasts, and that even upon the very account of the excellencies of his Faculties: I shall give many Instances hereof.

The fruition of the delights of Sense in the Beasts are more entire, simple, and unallayed than they are in Men; because it is apparent, that in the Intellective Nature there is something that checks, controls, and sours the fruition of Sense, namely the Conscience, which hath oftentimes a contrary motion, and checks the inferior Faculties of Sense, even when it oftentimes cannot control it, it chides and allays the contentation of sensual Delights; so that even in Laughter the Heart is sorrowful: but the Brutes have no such correction of their Delights in fruition of Sense, but are entire in their enjoyments.

Again, it is a great perfection of the Humane Nature, that it hath a more fixed, strong, and compact memory of things past than the Brutes have: A Brute forgets his fruitions when they are past, hath not the sense, much less the memory of any faults or follies committed by him; and therefore his present fruitions are not soured with the remembrance of those better seasons of delight that he once had: But Man hath ever a remembrance of what is past, he remembers his faults and follies, and what sensible advantages he lost by this or that inadvertence, oversight, or folly; if his prosperity or fruition were formerly greater, it depreciates his present enjoyment: so that the excellence of his memorative Faculties makes his present enjoyment faint, weak, and tasteless.

Again, Man hath a more exquisite sense of present incumbent evils than the Beasts have: as his fruition of the sensible Good he enjoys is not so entire as the Beasts, so his sense of any incumbent evil is more sharp, quick, and galling than that of the Beasts, and thereby his present sensible contentations are soured and allayed. When *Haman* had all the sensible Honours, Wealth, Affluence, that the Court of the greatest Monarch in the World could yield him, yet the want of a bow from *Mordecai* soured all his enjoyments, and made him sick for the want of it. And when *Ahab* had all the Honours and Provisions that a Kingdom could afford him, yet the want of *Naboth's* little Vineyard rendred all his enjoyments tasteless. And this Consideration is easily improveable, if we consider that the very state and condition of our sensible Life hath many more distastful and sharp ingredients than the brutal Life hath; and the greatest sensual Contentments in Man are commonly haunted with more than one of these displeasing Guests: The Beasts have no sense of reproach, dishonour, disgrace, which yet fit
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close upon Men, especially of great Spirits and Enjoyments. The Diseases and Distempers in Man are ten to one more in number, and sharper or longer than in Beasts: and any of these render the best sensual Enjoyments either tasteless or vexing.

Again, and most principally of all the rest, the Brutes have little prospect to the future, if any at all; their provisions for things to come, as for the Winter, for their Young, and the like, seem not so much acts of distinct knowledge or foresight of the future, as certain connatural Instincts alligated to their nature by the wise and intelligent disposition of their most wise Creator. And hence it is, that they have no consideration or fear of death till they feel it; and if they have a good Pasture at present, they are not solicitous how long it will last, or what they shall do after: they are not tormented with fears of what may come, because they have no anticipations or suspicions of what may be in the future; and by this means their enjoyments are sincere, unallayed with fears or suspicions, they fear not death, because they are not sensible of their own mortality till they feel themselves dying: But the case is quite otherwise with Man, the excellency of his Faculties, and the impression of Experience and Observation gives him a foresight of many things that will come, and a strong suspicion of many more that may come; and by this means he anticipates Miseries, and becomes twice miserable: first, in fears, pre-apprehensions, and anticipation, and then again in the actual undergoing of it; and if those suspected and feared evils never overtake him, yet he is equally if not more miserable than if they did: For his pre-apprehensions and suspicions renders them as sharp as if they were felt, and many times sharper, by the apposition of the most hideous and aggravating circumstances that his thoughts and fears can fashion. And this very advantage of anticipation and foresight, which is a perfection and excellence in Man above the Brutes, saddens his Joy, galls and frets his sensual Contentment, and upon the very account of his own excellency and perfection renders the fruition of a sensible good utterly incompetent to be that end of fruition which the wise God designed for him: Thus when he hath Wealth and Plenty he is under a thousand cares and fears, sometimes of false Accusers, sometimes of Thieves and Robbers, sometimes of Fire and Casualty; and while he is rich and plentiful in fruition, he is poor and miserable by anticipation: If he be in Health and Strength, whereby sensual Goods have their proper gust and relish with him, yet he is under the fear of Sickness, Pain, and Discomposure, which fear renders the Disease in a manner present before it comes, and so gives a distast and disrelish to even his present fruition.

And now if it be said, That as this sagacity and foresight sometimes gives a disadvantage under Enjoyments by the Passion of Fear, so it makes an amends under sensible Inconveniences by the Affection of Hope: I answer, It is true, it doth make some amends, but yet it is not answerable.

For first, the anticipations of Fear are ever more vigorous than the anticipations of Hope. 2. The objects, means, and occasions of our fears in relation to sensuels, are ever more and greater than the objects of our hopes; because we are obnoxious more to dangers, and those of
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divers kinds, than we are to deliverances and recoveries from sensible evils. 3. But that which is *instar omnium* is this; Death puts a period to all sensual Comforts, and this Death is certain will overtake us, and we know not how soon; and this foresight of Death is a certain foresight, and a continual object of certain fear. And this fear of Death, and the anticipation thereof is always present with us, and we cannot deliver our selves from the fear and foresight of it, no more than we can deliver our selves from the thing it self; and commonly the anticipation and fear of Death is more terrible, and dressed up in a more hideous prospect than Death it self. And this one provision and anticipation of Death, is that which makes all sensual Goods utterly incompatible to be a suitable end of fruition to a Man, upon these two accounts, *viz.* First, that this presentation and anticipation of Death doth sadly allay all sensible enjoyments, makes them weak, and renders them ungrateful. The Expression is excellent, *Heb. 3. 15. who through fear of death were all their life time subject to bondage*: the delicacies of a Man in Bondage lose their tast and relish. Again secondly, it presents all our enjoyments as determined or determinable in a short time, which takes off the value of any sensible enjoyment. It must needs be, that sensual enjoyment must be abated, when he that enjoys it doth in the very enjoyment thereof know it must not last long: a Beast enjoys his full Pasture with greater contentment, that yet shall be taken from him, or he from it to morrow; than any Man can enjoy the sweetest Provision for his Sense, while he is under the actual sense that he must dye to morrow. The advantage of the anticipation of Death is that which renders it impossible that a sensual good can be the ultimate good of fruition to Man, since it is by that very advantage rendered a less good to him than to the Beasts that perish.

The Proof of the Immortality of the Soul of Man belongs to some of the following Discourses, I shall not now launch out into that Deep. But to me this very Consideration, that the very excellence of the humane Faculties, especially that whereby he hath a prospect and considerate anticipation of Death, renders the good of Sense less good, delightful, and pleasant to this excellent Creature Man than it is to the very brute Beasts; hath been a strong Moral Evidence, that there is an immortal Soul in Man, for which an immortal Good is reserved: Because it seems not suitable with Divine Wisdom and Oeconomy, that the Brutes should have a greater felicity than Man; yet so it must be, if the end of Man's fruition were only a sensible Good, or a Good suited only to the Life of Sense.

2. And surely if the good of Sense be not the adequate end of humane fruition, then much less can those things be the end of fruition intended for Man, which are but provisional and subservient only to the good of Sense; and such are Honours, Grandeur, Power, and Wealth, they are but so many subservients to the acquiring or performing of the good of Sense, or the fruition of a sensible Life to him that hath them, and therefore lower and less valuable than those things for whose sake and use they serve.

And thus far I have gone in the Negative, whereby I have endeavoured to evince that the good of Sense, the fruition of those good things

things that serve for a sensible Life, Meat, Drink, Clothing, the Pleasures and Delights of the Senses, the expletion of the Faculties of the Sensible Nature; their motions are not the peculiar end of fruition designed by the wise God to the Intellectual Nature of Man. I come to consider it Positively, That there is an end of Fruition, and what we may reasonably conjecture it may be.

That Man was created for an end of fruition appears, 1. From the nature of the Efficient: It is, as before is observed, the property of every intelligent and wise Efficient in all his Works and Actions to intend an End, and an end suitable to the value of the work, but that is not always an end of fruition to the work it self; it is sufficient, that there is an end in the work: Many times a wise Agent produceth a work or effect in order to something else, an instrument subservient to some other thing; and thus he might have made Man only to serve, glorify, and honour his Maker, as a Man makes a Saw or a Watch as an Instrument for his own use, without any communication of a Good of fruition to the thing thus made. But as Almighty God is a most wise Efficient, so he is a most benign and bountiful Efficient; He made all things not only for the glory of his Wisdom, but for the communication of his Goodness to the things He thus made, according to the measure and capacity of their participation. He made the inferior Animals for the glory of his Wisdom and Power, and for the service of Man, and yet he communicated to them so much of fruition and enjoyment, and of such a Good as was suitable to their nature, namely, a sensible Good. There is not the meanest Insect in the World but hath a Good of fruition proportionate to its nature, namely, of a sensible Good in which it delights, and which it endeavours to preserve. And thus as the Wisdom of this great Efficient made Man the most excellent of Visible Natures, for an end, and such an end as was suitable to the excellence of the Nature he thus made, namely, actively to serve and glorify his Maker; so the Goodness and Beneficence of this bountiful Efficient designed an end of fruition to this Creature, and designed unto him also such a fruition, and of such a good as is proportionate to the excellence of that Nature he thus made: And otherwise he should have been proportionally less beneficent to the noblest of sublunary Creatures, than he is to the meanest of living Animals, which together with the end designed in them *in ordine ad aliud*, have an end of fruition of such a Good as is proportionate to their being, nature, and capacity.

2. And as thus the contemplation of the Efficient, and his Beneficence to other created Beings, induceth us to conclude an end of fruition designed to Man, so the contemplation of the Work it self concludes the same. Man hath in the peculiarity of his nature these two great Powers and receptive Faculties, whereby he is rendered amply capable of a great enjoyment, namely his Understanding, whose proper Object is Truth, and the noblest Truth that is, and its proper action is directed to that Object, namely, Intellection and Will, whose proper Object is [Good,] and the greater and more sovereign the Good is, the more suitable it is to this power, and the proper act of this power is to reach after, and desire, and embrace, and delight in its Object: and the filling of these two receptive powers with the chiefest intellectual Truth, and

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with the chiefeft and intellectual Good , is that which perfects , advanceth , and enableth thefe Faculties or Powers.

And this doth lead us to a juft difcovery of what that end of fruition is , for which Man was designed by his beneficent Creator , namely , fuch as is fuitable , answerable , and proportionate to thofe Powers or Faculties in Man whereby he excells all inferior Animals , his Underftanding and his Will ; and herein confifts his happinefs , his end of fruition or enjoyment.

1. As to his Underftanding , the great and general fruition of Good therein is Knowledge : Now I fhall diftinguifh thefe Objects of Knowledge or *Scibilia* into two kinds ; 1. The *Scibilia subordinata* , which being united to the intellective Power by that act or habit which we call Knowledge , do advance and perfect this Power or Faculty in a fubordinate way , meafure , or degree ; fuch is the knowledge of Natural Caufes and Effects of Arts Liberal or Manual , of Rules of *juftum* and *decorum* , of Moral Truths , and the like : this gives a fubordinate perfection and fruition to this Power varied and diversified according to the worth of the Objects , and the perfection or clearnefs of their perception. 2. The *scibile supremum* , which is the ever-glorious God , his Perfection , Attributes , Wifdom , Power , Goodnefs , his Will , and Commands , fo far forth as that infinitely perfect Being is cognofcible by our finite Underftanding : This is the fupreme Truth , the higheft fruition of the intellective Power , and the greateft perfection of an intellective Nature as fuch.

2. Again , as to the power of the Will , it hath likewise Objects of Good answerable to the former diftribution. 1. The fubordinate Good of Moral Virtues , Honefty , Sobriety , Juftice , Temperance , and all the train of Moral Virtues ; thefe being united to the Will in their acts and conftant habits , the Will enjoys a great Moral Good , tranquillity of Mind , complacency and delight. 2. The Sovereign Good , which is the glorious God , reached after by the Will as the chiefeft Good , and enjoyed in the manifestations of his Love , Favour , Prefence , Influence , and Beneficence : this fills the vafteft motions of the Will , fills it with Peace , Contentation , and Glory , and keeps it nevertheless in a perpetual motion , by returns of Gratitude , humble Love , Obedience , and all imaginable extension of it felf for the Service , Honour , and Glory of that God that hath thus bountifully given to the Soul a power in fome meafure receptive of his Infinite Self , and fitted that power with a proportionate Good , even the Goodnefs and Bounty of the ever-glorious God.

And now becaufe Man hath a double ftate , namely , a ftate in this Life in conjunction of the Soul with the Body , naturally diffolvable , and a ftate of Immortality after this Life , either in the Soul alone , or in the Soul in conjunction with an immortal Body , as fhall be fhewn in its due time : therefore proportionable to this double ftate is that fruition which Almighty God designed for his End.

1. In this Life , the proportionable fruition of Man is that which is compatible to the ftate he hath here , namely , the knowledge of God and his Works in a meafure fuitable to the intellectual Capacity in this Life , the fenfe of the Divine Love , Favour , Goodnefs , and Protection , the fenfe of his own Duty to God , to Man , to himfelf , with a cheerful endeavour to obferve it : And from thefe arife dominion over his Paflions and
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inferior Faculties, and the due placing, ordering, and moderation of them; a resignation of his Will to the Divine Will, and a dependance upon his Goodness, Power, and All-sufficiency: and from all these arise peace of Conscience, contentation and tranquillity of Mind, in which even the wisest of Heathens placed the greatest Happiness acquirable in this Life.

2. After this Life an immutable state of everlasting Rest and Happiness in the Beatifical Vision of God, and fruition of so much of his Goodness and Beneficence as a glorified Soul is capable of: for it is reasonable that the end of fruition of an Immortal Nature should be an everlasting Good, commensurate in its intention and duration to such an Immortal Nature.

And now if any Man shall enquire if this be the End of Almighty God in the Creation of Man, How comes it to pass that all Men attain not this End, or how comes it to pass that Almighty God comes to be frustrated of the End which he thus designed, as well in relation to his own Glory, as the Good of Mankind?

I Answer, first in general, That this Enquiry belongs to another way of Examination, namely, herein we must have the assistance of Divine Revelation, both to answer this Enquiry and to guide us in it, which in this place is not designed to be prosecuted.

2. Yet more particularly thus much I shall say, 1. That the wise God hath as it were twisted his own Honour and Glory with Man's Felicity and Happiness; if Man decline to honour, glorify, love, and obey his Maker, and casts off the primary and chief End of his Being, it is just and necessary that he be deprived of the End of his own Fruition and Happiness, which is the Reward of his Duty. 2. The Liberty of the Will was the great Prerogative of the Humane Nature, and Almighty God having furnished that Nature with all conducibles to enable him to obey, and to continue him in that Obedience, Man by the abuse of his own liberty deprived himself of his own felicity: When we speak therefore of the End of Man we speak of it as God made him, not as Man made, or rather unmade himself.

But of this End of the means of his Restitution by Christ, and the admirable System and Connexion of the Divine Providence in relation to Man in his Redemption, belongs to another Discourse: We are in this preceding Discourse but in the outward Court of the Temple, where the Gentiles came, or might come by natural Light or Ratiocination.

Therefore to conclude all,

Almighty God out of his abundant Wisdom, Goodness, and Beneficence as he hath made Mankind, so he hath fitted him for a double End, namely, to glorify his Maker, and everlastingly to enjoy him, and in order hereunto hath given him a double station, and in each of these a differing kind of fruition of his Maker, *viz.* a station in this lower World, and a station in the glorious Heavens.

His station in this lower World, is during the time of his mortal Life here below; and in this station the glorious God hath furnished Mankind with all conveniencies and accommodations suitable to it, as the comfortable Accommodations of his sensible Life, the Comforts of humane Society, the Use and Dominion of his Creatures, the admirable Faculties of his Mind, the Books and Instructions of his Word and

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Will, the goodly Works of Creation and Providence, the Tenders and Ayders of his Grace and Guidance, the Effluxes and Manifestations of his Favours and Love, the Anticipations and Hopes of Eternal Happiness; these and many more such as these, the Bountiful God affords to Mankind, even in this state of Mortality, which may and do render it in a great measure very comfortable.

But withall he lets us know, and we must know, That these are but as so many Bounties to render our passage through this Life the more easie and convenient to our selves, and the more serviceable to our great Lord and Master: This is not to be the place of our rest or final happiness, but a place of exercise and probation, a place of preparation for our future and more durable state; we are here as it were but put to School to learn our Duty and our Lessons, we are but as young Plants planted in a Nursery, till we come to a convenient size and fitness to be removed, and then we are to be transplanted into another and a richer Soil. In this World we are as it were Seeds ripening upon the Trees or Stalks till they are fully digested and ripe, and then as the Seeds drop into the Ground and become the Seminary of a new Plantation: so by Death we drop into Eternity, and become the Children, the *Embryones* of the Resurrection, and then we come into that second and blessed station, the Country of our Rest and Happiness, our Home, and the End of our Being; where we shall ever behold the Glory of the Glorious God, and glorifie him for ever; where we shall have the perpetual, sensible, vigorous, satisfactory Manifestation and Influences of his Love to all Eternity, and enjoy that Blessedness which Eye hath not seen, nor Ear heard, neither hath entred into the Heart of Man to conceive: And this is the great End of the Glorious God in making this great goodly Creature called Man, whose Body is but the Husk, the Shell of that vital, immortal Beam of Light, Life, and Immortality, that Seminal Principle of Eternal Life, the Soul, irradiated and influenced by the Sacred Spirit of Life and Love, and if God lend me Life and Strength, shall in my next be handled.

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